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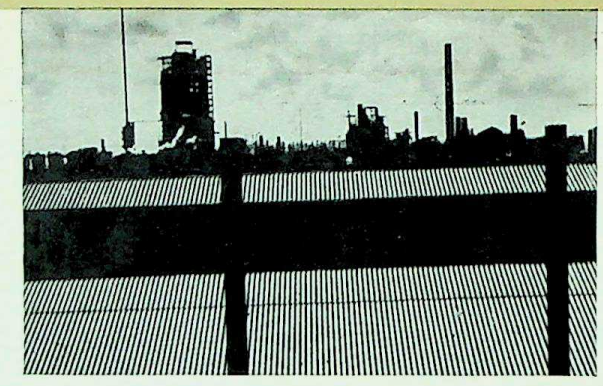
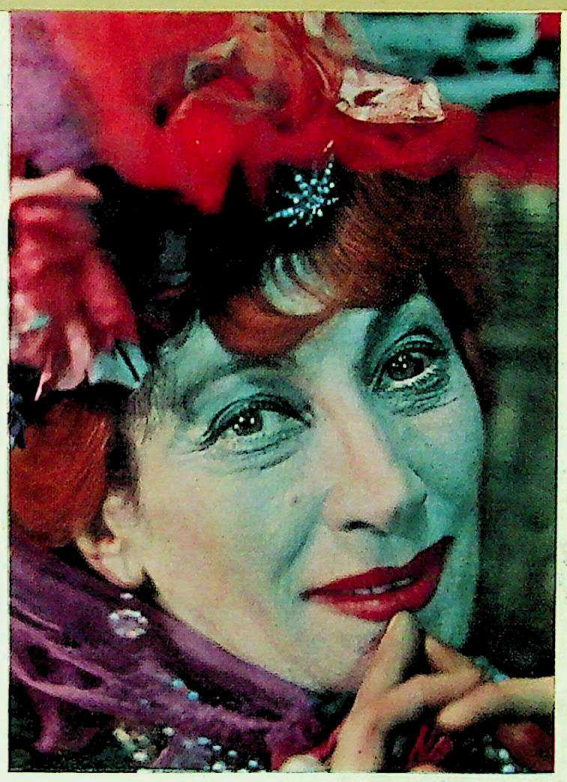
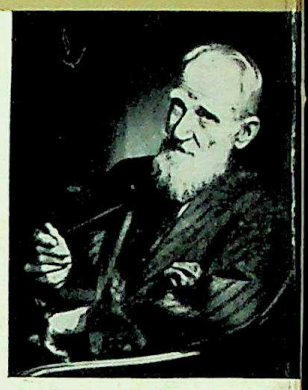

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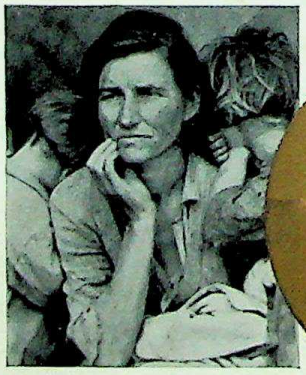
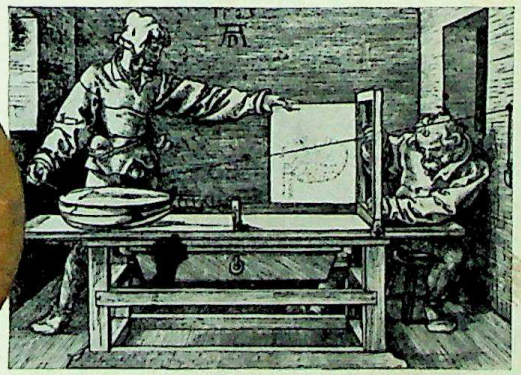

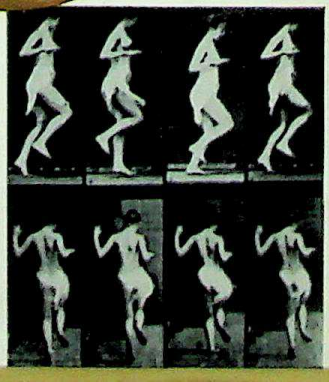

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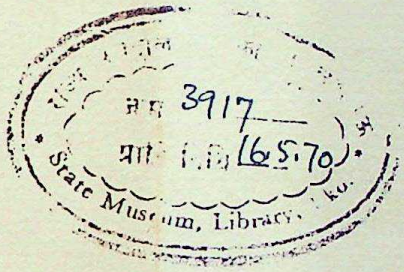

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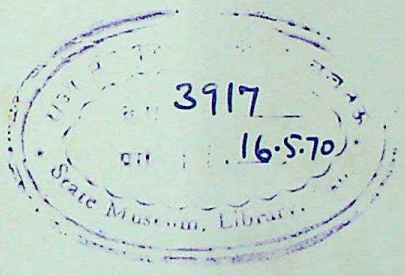

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THE PICTURE HISTORY

FROM THE EARLIEST BEGINNINGS

653 illustrations 30 colour plates

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OF Photography

TO THE PRESENT DAY

PETER POLLACK

THAMES AND HUDSON LONDON

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To

BEAUMONT NEWHALL and

HELMUT GERNSHEIM

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Contents

INTRODUCTION 8
Photography as art / as communication / as memory / as folk art

PART ONE
THE BEGINNINGS

1. The Long Road to Photography 12
Discovery of chemical reaction to light / Literary predictions of photography / Ancestors of the camera: the camera obscura, the silhouette, the physionotrace, the camera lucida / Tom Wedgwood's efforts

2. Niepce: The World's First Photographer 24
"Heliography," ancestor of photoengraving / The world's first photograph / Niepce and Daguerre

3. Daguerre and the Daguerreotype 34
The mercury-vapor process / Daguerre as artist and owner of the Diorama / Arago describes daguerreotypy to the Academy

4. The Daguerreotype in Europe 50
Aquatint reproductions of daguerreotypes / Portrait parlors

5. Mirror with a Memory: The Daguerreotype in America 62
Draper and Morse and their successors

PART TWO
MASTERS OF THE NINETEENTH CENTURY

6. Fox Talbot—Paper Negatives and Positives 78
Invention of paper negative-positive process / "Photogenic drawings" / The calotype and the developed latent image

7. Hill and Adamson: The Great Collaboration 94
Fifteen hundred calotype portraits / One painting, 470 Scottish ministers

8. Early Wet-Plate Photography 102
Niepce de Saint-Victor coats glass plates with sensitized albumen / Blanquart-Evrard's mass production of positive prints on albumen paper / Scott Archer and the wet-collodion plate / Six pioneers: Frith and the Middle East, Bisson Frères and the Alps, Fenton and the Crimean War, Beato and the Indian Mutiny, Notman and Canada

9. Hesler: Chicago Pioneer 124
Hesler's Minnehaha Falls *and Longfellow's* Hiawatha / *Three decades of photographs*

10. The Stereoscope: Pictures in Pairs 130
Wheatstone and Brewster / Duboscq and Soleil / Oliver Wendell Holmes

11. Nadar: The "Titian of Photography" 142
Impact of photography on French art: Corot and the cliché verre / *Nadar and* Le Panthéon Nadar / *First aerial photograph / First use of photojournalism*

12. The Ubiquitous Carte-de-Visite 154
Étienne Carjat / Adam-Salomon / Pierre Petit / Disdéri: the 4-lens carte-de-visite camera, Napoleon III, downfall

13. Julia Margaret Cameron: Portraits Out-of-Focus 166
"Primitive" portraits / Allegory

14. Rejlander, Robinson, and "Art" Photography 174
The composite print / Pictorialism and sentimentalism / Rejlander's The Two Ways of Life / *Darwin and* The Expression of the Emotions in Man and Animals

15. Brady: Cameraman of the Civil War 188
Galleries in New York and Washington / Alexander Gardner / The Lincoln photo of 1860 / Covering the Civil War

16. Pioneers of the West 204
Robert Vance, Timothy O'Sullivan, William Henry Jackson, Laton A. Huffman

17. Muybridge and Eakins—Photography of Motion 224
Muybridge / First photograph of a running horse / Eakins and the multiple exposure

18. Footlights, Skylights, and Tintypes 238
Falk / Sarony / Mora / Theater personalities / The publicity photograph / The picture postcard / Tintype parlors and albums

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19. The "Detective" Camera and the Kodak 250
Maddox and the dry plate / Eastman and film / Beginnings of candid photography / The Kodak, 1886

PART THREE
MASTERS OF THE MODERN ERA

20. Stieglitz: An American Legend 260
Return from Germany / Detective-camera enthusiast / Editor of Camera Notes */ A founder of Photo-Secession 1902 / The Little Gallery at "291" /* Camera Work

21. Steichen: Painter, Photographer, Curator 280
Paris and the Salon of 1902 / New York, Stieglitz, and "291" / Colonel Steichen, U.S. Army and aerial photography, World War I —Between wars / Captain Steichen USNR naval photography, World War II / Curator of photography, Museum of Modern Art

22. Atget and the Streets of Paris 288
Realistic and documentary photographs

23. Riis and Hine: Social Idealists with the Camera 296
The photograph as sociological document

24. Genthe—Celebrities and Anonymous Throngs 312
Fashionable photographs in academic manner / San Francisco's Chinatown / The San Francisco earthquake and fire

25. Edward Weston: A New Vision 322
The familiar world seen anew

26. Germany and the Bauhaus—Photography for Design 334
Expanding photography's vocabulary / Applied photography / Photomontage and photogram / The Bauhaus / The German Werkbund / Film und Foto, *1929 / Renger-Patzsch / Moholy-Nagy / Dr. Erich Salomon*

27. Roy Stryker—Documentaries for Government and Industry 350
The Farm Security Administration's photographic program / Training ground for O.W.I. and Standard Oil

28. Ansel Adams: Interpreter of Nature 364
Master of harmonious composition and expressive nuance

29. Doisneau: Humorist with a Camera 376
The funny moments in French life / A patiently waiting Leica

30. David Duncan: Lensman of the Marines 388
Photographs of the Korean War

31. Brassai's Probing Vision 404
Paris at night / People in side streets and alleys in flawless compositions

32. The Discerning Lens of Alfred Eisenstaedt 418
Pioneer with miniature camera—Photographer for Life Magazine since its inception

33. Callahan and Siskind—The Magic of the Commonplace 432
The dilapidated and the useless become meaningful and exciting / Fusing of the abstract and the real

34. Margaret Bourke-White: Roving Recorder 456
Eavesdropper for Life readers / Photo-essayist / Chronicler of our time

35. Van der Elsken: Storyteller in Photographs 470
A three-year record of a girl's life in Saint-Germain-des Prés

36. Cartier-Bresson and the Human Comedy 480
Moments in which ordinary persons reveal their innermost thoughts and feelings

37. Yousuf Karsh—Faces of Destiny 496
Intimate characterizations of world leaders

PART FOUR
PHOTOGRAPHY TODAY

38. Color: Another Dimension 510
Its challenge to the photographer / Steps in its development / Its coming of age / Color photography as a tool and as expressive art

39. Extending the Range of Human Vision 544
Photography in modern life / Applied photography / Photography and science / New worlds of vision / The photographer's arsenal

40. Around the World in Fifty Photographs 560
Photography as an internaional art today / An educated public / New frontiers

BIBLIOGRAPHY 618

INDEX 620

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Introduction

IT IS WITH PHOTOGRAPHY AS AN ART and with photographers as artists—with the vision of the man behind the camera—that this book is largely concerned. It is a book of many hundreds of pages, despite the fact that lack of space has forced the exclusion of many photographers with a clear title to presentation of their work. In the last twenty-five years, the body of distinguished photographic art has grown to vast proportions. Nevertheless, the art of photography is only a small part of the enormous photographic enterprise, which is one of the momentous developments in the history of human expression and communication.

Photography was invented by nineteenth-century artists for their own purposes. These men were seeking a lasting, literal record of their visual surroundings, and they found it. The new combination of illumination, lens, shutter, and flat surface coated with chemicals sensitive to light produced, within a short interval of time, images more lasting, more convincing in their reality, and more richly detailed than painters could produce manually in weeks and months of effort. This alone was enough to throw consternation into the ranks of fellow artists; and, after their first reaction of pleasure in a new kind of image, art critics rallied with the haughty charge that photography was not and could not be an art. The actual world in which we live had too strong a grip on

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photography, they said, and pictures so dependent upon mechanical means could not be called acts of man's creative imagination.

Despite the critics, photographers knew that they had found a new art form, a new form of expression. As artists, they had extraordinary visual sensitivity, and they thought and expressed themselves naturally through visual images. As artists, they used the new tools as other artists before and after them have used brush and pencil —to interpret the world, to present a vision of nature and its structure as well as the things and the people in it.

The most important use of photography was in communication. Here the value of photography was seen in its quality of immediacy, of literal description and convincing presentation of reality. This quality was retained to a large extent even after pictures had been translated into forms that made them available as printing plates for the illustration of books. Almost anything that could be photographed could be printed; and books on travel, medicine, science, and art were published with a wealth and authenticity of visual information never before possible. By now, photography has become as important as the word—perhaps more important as all linguistic barriers fell before this "picture talk."

We use photographs as memories, memories of ourselves when we were younger, of places where we have lived or visited, of friends and relatives who are no longer with us. With the advent of the roll-film Kodak, manageable even by a young child, photography became a folk art—the most democratic art in history. Cameras and film are sold everywhere—in newsstands, drugstores, and tobacco shops. The millions practice it, as well as the few who make of it a medium of high art and a tool of science and industry.

This book cannot go into motion-picture photography, which is a field in itself. Its beginnings are dealt with here, for they belong to still photography. When it was found that the camera could clearly resolve action that was only a blur to the human eye, pioneering still photographers took action sequences and superimposed action pictures. Thereafter, this great new form of art, entertainment, and mass communication took shape swiftly and since then has swept the world.

The production of cameras, photochemicals, and photographic equipment has become a huge, world-wide industry of strategic importance to the life and economy of every great nation.

Our newspapers and periodicals flood us with pictured reports of events as they happen, and employ armies of photographers for this purpose. Merchants expose their goods for sale through photographs, and—especially when they present their products in color—we are so convinced of the reality of what is shown that we accept pictures as samples, as reasonable substitutes for the goods themselves. Photography is used extensively in advertising and publishing, in basic science and engineering, in medicine, commerce, city planning, record keeping, recreation, and defense. It touches almost every aspect of our individual and social existence.

Today we live in a technical and industrial world. We are attuned to an aesthetic in which scientific technique, mass production, and teamwork for creativity have shaped the articles that we drive and wear and put into our homes. In such a society old distinctions between "fine" and "applied" art have come to have less and less meaning. The most creative among us today have accepted the forms and the drives of the technical-industrial world, and have been challenged to express its strength and its beauty.

In accepting this assignment, the creative leaders of our society have accepted also the task of reshaping the technical-industrial world and bringing it into greater harmony and order through their art. Men with cameras, imagination, and sensitive vision show us the actual and potential beauty of our time, so that we are able to remember it, enjoy it, correct it, protect it, and learn about it. In the forward ranks of today's creative workers in the studio and in the field—in the service of industry, advertising, publishing, government, humanity, and serving their own creative needs—are today's photographers.

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PART ONE

The Beginnings

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1. The Long Road to Photography

IT IS A POPULAR BELIEF that one man was the inventor of photography. His name was that given to the process when it was made public in 1839. Curiously, like so many inventions—the electric light, the automobile, and the airplane, to mention only a few—several men, working in complete independence of one another, conceived a practical solution at about the same time. Actually, the one man, Daguerre, did not take the first photograph. That was the accomplishment of Joseph Nicéphore Niepce, either thirteen or seventeen years earlier (the historian Potonniée says 1822; the Gernsheims give evidence that it was 1826). And, four years before Daguerre's announcement in 1839, Fox Talbot in England took a photograph on a one-inch-square paper negative placed in a camera.

In the year when Daguerre gave his process to the world (patenting it only in England), Hippolyte Bayard had an exhibition of direct positive prints in Paris. During that same year, Sir John Herschel, in London, read a paper before the Royal Society showing that august body a number of photographs which had been fixed by a method he discovered using hyposulphite of soda (it was immediately accepted by Fox Talbot and Daguerre)—the same hypo still used in every darkroom.

The two aspects of photography, chemical and optical, had a thousand-year history before the fertile minds of

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the early nineteenth century completed its evolution, perfecting camera and chemicals to capture and fix the image permanently.

The progress of photography was slow. It had been observed for centuries that exposure to the sun's rays tanned the skin, and it was recorded that the amethyst and the opal lost their sparkle in prolonged exposure to sunlight.

The first person to prove that it was the action of light and not of heat that blackened silver salts was Johann Heinrich Schulze (1687–1744), a physician and professor at the University of Halle in Germany. In 1725, while attempting to make a phosphorescent substance, he happened to mix chalk with some nitric acid that contained some dissolved silver. He observed that wherever direct sunlight fell upon it the white mixture turned black, whereas no changes took place in the material protected from the sun's rays. He then experimented with words and shapes which he cut from opaque paper and placed around a bottle of the prepared solution—thus obtaining photographic impressions on the silvered chalk. Professor Schulze published his findings in 1727, but it never entered his mind to try to make permanent the image he secured. He shook the solution in the bottle and the image was lost forever. This experiment, however, started a series of observations, discoveries, and inventions in chemistry that, when combined with a practical "camera obscura" a little more than a century later, culminated in the invention of photography.

A French science-fiction writer in 1760 first prophesied the taking of "sun pictures" and described at the same time other mechanical devices which anticipated the telephone, the telegraph, radio, and the use of dehydrated foods. Tiphaigne de la Roche published a novel *Giphantie* (an anagram of his first name), in which he described a paradise set in a "tempestuous ocean of moving sands" and located in an inaccessible desert north of Guinea in Africa. "It was given to the elementary spirits, the day before the Garden of Eden was allotted to the parents of mankind."

Guided by the "Prefect," a disembodied spirit, he walked in an immense gallery, entranced with "images equivalent to the things themselves" and other images depicting historical personages ranging from Nimrod and Nebuchadnezzar to Alexander and Caesar. The guide explained that "rays of light, reflected from different bodies, make a picture and paint the bodies upon all polished surfaces, as on the retina of the eye, on water, and on glass. The elementary spirits have studied to fix these transient images: They have composed a most subtle matter, very viscous and proper to harden and dry, by the help of which a picture is made in the twinkle of an eye. They do over [coat] with this matter a piece of canvas and hold it before the objects they have a mind to paint. The first effect of the canvas is that of a mirror; there are seen upon it all the bodies far and near, whose image the light can transmit. But, what the glass cannot do, the canvas, by means of the viscous matter, retains the image. The mirror shows the objects exactly but keeps none; our canvases show them with the same exactness and retain them all. This impression of the images is made the first instant they are received on the canvas, which is immediately carried away into some dark place an hour after the subtle matter dries, and you have a picture, so much more valuable as it cannot be imitated by art nor damaged by time.

"We take in their purest source from the luminous bodies, the colors which painters extract from different materials . . . the justness of the design, the truth of the expression, the gradation of the shades . . . the rules of perspective. All these we leave to Nature, who, with a sure and never erring hand, draws upon our canvases images which deceive the eye and make reason to doubt whether what are called real objects are not phantoms."

What an extraordinary prediction from a writer of scientific romances whose imagination was undoubtedly fired by watching eighteenth-century sketch artists work with the camera obscura!

The original camera obscura may be called "a room with a sunlit view." The tenth-century Arab mathematician and scientist, Alhazen of Basra, who wrote on fundamental principles of optics and demonstrated the behavior of light, recorded the natural phenomenon of the inverted image. He had observed this on the white walls of darkened rooms or in a tent set in the sunny landscapes of the mid-East, the image passing through a small round hole in wall, tent flap, or drapery. The camera obscura was first used by Alhazen to observe eclipses of the sun, which he knew were harmful to the naked eye.

Before the camera obscura was used in Europe, artists studying the intricacies of perspective often resorted to the use of various devices for copying. These machines for drawing (*machines pour dessiner*, as they were known in France) were developed by many artists. In 1525 the renowned German, Albrecht Dürer, made woodcuts of four drawing aids—one his own invention signed A over D—which he printed in his book *Underweysung*.

Vasari in his *Lives of the Artists* credits Leon Battista Alberti with the invention of the camera obscura in 1457, the year when "Gutenberg discovered the most useful art

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of printing." What Vasari believed to be a camera obscura was actually a viewing box in which a painting on glass was inserted and seen as a transparency, according to the description which Alberti gives of his invention, in his *Treatise on Painting*.

A clear and concise description of the pinhole camera obscura appears in the notebooks of Leonardo da Vinci (1452–1519), though he does not claim to be its inventor. He records in his journal a diagram showing the camera obscura, but his drawings remained secret in his notebooks until deciphered and published by J. B. Venturi in 1797—practically three hundred years after Leonardo's death.

The camera obscura was first illustrated in January, 1544, as the invention of a Dutch physician and mathematician, Gemma-Frisius. Early historians of photography ascribed to Giovanni Battista della Porta (1538–1615) the invention of the camera obscura, for he was the first to publish a long and clear description of it (in 1558 in his *Magiae Naturalis*).

Another writer prior to Della Porta in describing the dark chamber was Girolamo Cardano (1501–1576), of Milan, who in 1550 was the first to mention the attachment of a convex lens to a frame in the window of a darkened room to achieve a clearer image.

Della Porta was the first to suggest that artists use the camera obscura as an aid to painting, first copying the shapes and lines and then adding the colors required. To improve the image he later recommended that a lens be fitted to the opening and a convex mirror placed in such a relationship to the image that the image would be enlarged and reflected back onto the wall inside the room, unreversed.

Also prior to Della Porta in describing a camera obscura fitted with a lens was Daniello Barbaro who, in his book on perspective, conceived the idea of fixing a spectacle glass, convex on both sides, in a small opening in a darkened room.

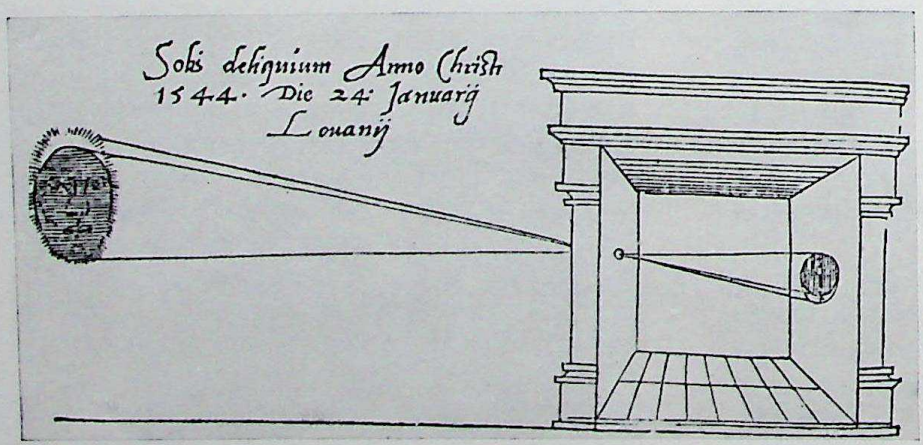
All these references are to stationary camera obscuras, darkened rooms big enough for a person to enter, in order to observe and draw.

The first movable or portable camera obscuras were sedan chairs or tents, first altered for this purpose in the seventeenth century. The noted Austrian astronomer Johannes Kepler, in 1620, set up a black tent in a field, inserted a lens in the hole of one flap, and traced the image that fell on the paper attached to the flap opposite the lens.

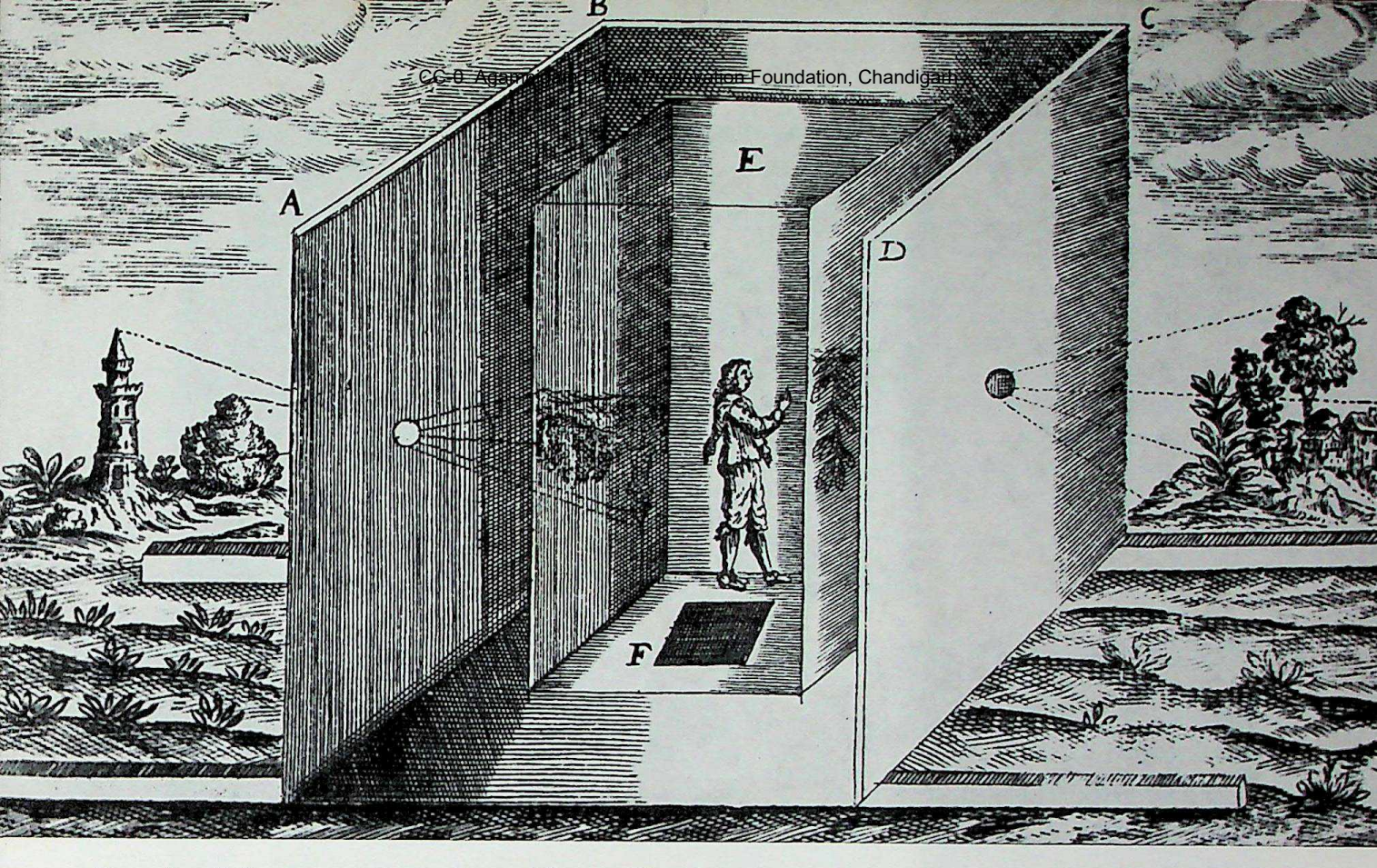
Portable camera obscuras were gradually designed so that they were easier to carry. They measured about 2 feet in length, less than a foot in height, with a lens fitted at one of the long ends and a ground glass on the other.

A reflex type of camera obscura was designed by Johann Zahn in 1685. His box had the additional advantage of a mirror placed inside at a 45° angle to the lens, so that the image was reflected upwards to the top of the box. Here he placed a frosted glass which could be covered with tracing paper, so that the image was easily traced. Zahn also invented an even smaller reflex-box camera obscura fitted with a lens. It resembled the cameras used by Niepce a hundred and fifty years later.

During this long interim the camera box was ready,



First published illustration of a camera obscura, which is registering the solar eclipse of January 24, 1544. By Rainer Gemma-Frisius, sixteenth-century Dutch scientist. Courtesy Gernsheim Collection, London.



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Engraving of a large camera obscura shown with top and front cut away. A small portable room, it could be easily carried to the scene. The artist then climbed inside through a trap door, and we see him tracing, from behind, an image cast on transparent paper which hangs opposite one of the lenses. This was constructed in Rome by Kircher in 1646. Courtesy George Eastman House, Rochester.

waiting only for chemical processing to be perfected in order to complete the invention of photography.

Seventeenth- and eighteenth-century artists were addicted to the camera obscura, not only for portraits but for landscapes as well; it became a standard piece of equipment. It was a fine tool, for it obscured an artist's incompetence in perspective or in catching a likeness. These disabilities were readily overcome with the new apparatus.

In addition to portable tents, sedan chairs, and small portable camera obscuras, there were beautifully constructed table models for the wealthy, who were entranced with the new artistic toy.

The inverted image of the camera obscura is easily explained, for light passes in straight lines through the small hole cut in the center. The lines of light reflected from the bottom of a sunlit landscape will enter the hole and continue onward in a straight line to the top of the wall, or onto the top of the paper set in the darkened room. In the same way, the lines of light reflected from the top will travel to the bottom of the paper, and all lines in between the top and bottom will similarly pass through the center, creating an upside-down image. The same effect as in a darkened room takes place in a darkened box. A lens put into the box refracts or bends the rays, and a smaller but a much more sharply defined image results; and with the aid of a mirror the image can be seen right side up on the ground glass.

Light, natural or artificial, is the source of photography. Before the word "photography" was conceived by Sir John Herschel, the process invented by Niepce was called "heliography"—drawing by the sun—and the invention by Fox Talbot was "photogenic drawing."

Portraits, for centuries, were the luxury of the wealthy. With the growth of the middle class in the eighteenth century, a demand for portraits at reasonable prices first

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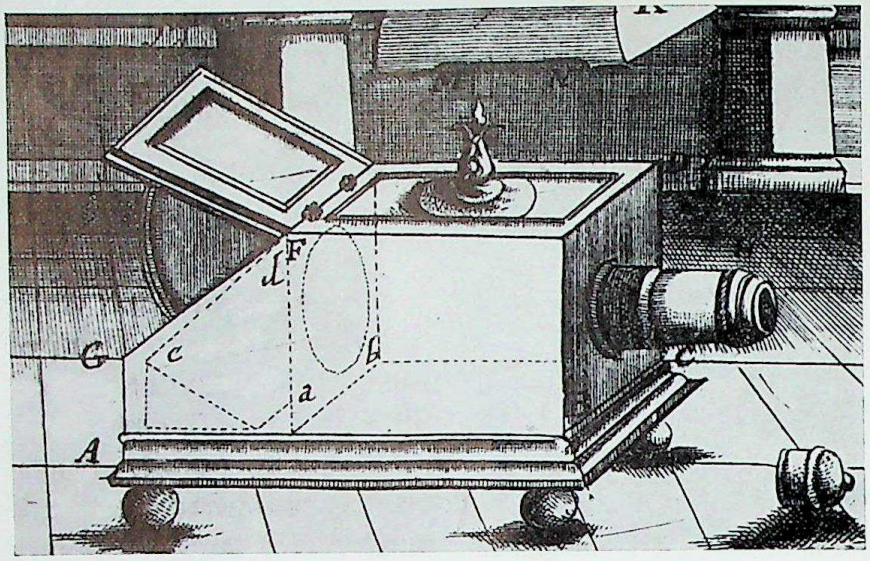

Reflex box camera obscura, 1685
Germany, invented by Johann Zahn
Courtesy Gernsheim Collection

developed the "silhouette," which required only that a person trace outlines or shadows cast on a paper and then mount the cut-out likeness.

The "physionotrace," invented by Gilles Louis Chrétien in 1786, worked on the same principle as the silhouette, but had the added advantage that a small engraving on copper resulted from the tracing. This plate could be used to pull an edition of prints.

A third device intended to permit an unskilled operator and a machine to do the work of the artist was the "camera lucida" invented by William Hyde Wollaston in 1806. This enabled the untalented, with the aid of a prism suspended at eye level, to trace images of persons or landscapes reflected on a flat piece of drawing paper. The camera lucida was not a camera at all—its most important asset was its light weight and transportability. Travelers often used it. In 1827–1828 Basil Hall wrote a book, *Forty Etchings Made with the Camera Lucida in North America*, praising the instrument because it freed the traveler and would-be artist "from the triple misery of perspective, proportion, and form."

The eighteenth-century need for the camera came close to being realized in 1800 by Tom Wedgwood (fourth son of the famous potter, Josiah Wedgwood), who secured an image but was unable to make it permanent. In 1796 he experimented with sensitized silver salts to produce images of botanical specimens. He copied the woody fiber of leaves or the wings of insects, which he placed on paper or leather moistened with silver nitrate and exposed to the sun. Had he used ammonia as a fixing agent, a discovery of Carl W. Scheele in Sweden twenty years earlier, or had he washed the image in a heavy solution of common salt, he could have stopped any further action of light on the sensitive silver salts. Instead, he washed the negative with soap, or he varnished the picture when dry. Though he examined the image by only the weakest of candlelight, it was of no avail, for the image gradually grew black.

How close Tom Wedgwood was to becoming the father of photography! In addition to contact printing he attempted to secure images on prepared paper placed in a camera obscura. As he met with no success, he abandoned further experiments and recorded those he made up to 1802. In that year his friend Sir Humphry Davy wrote a paper explaining Tom's experiments and sent it to the Royal Society. The paper was entitled "On an Account of a Method of Copying Paintings on Glass and of Making Profiles by the Agency of Light upon Nitrate of Silver—Invented by T. Wedgwood Esq."

It reads in part, "the images formed by means of a

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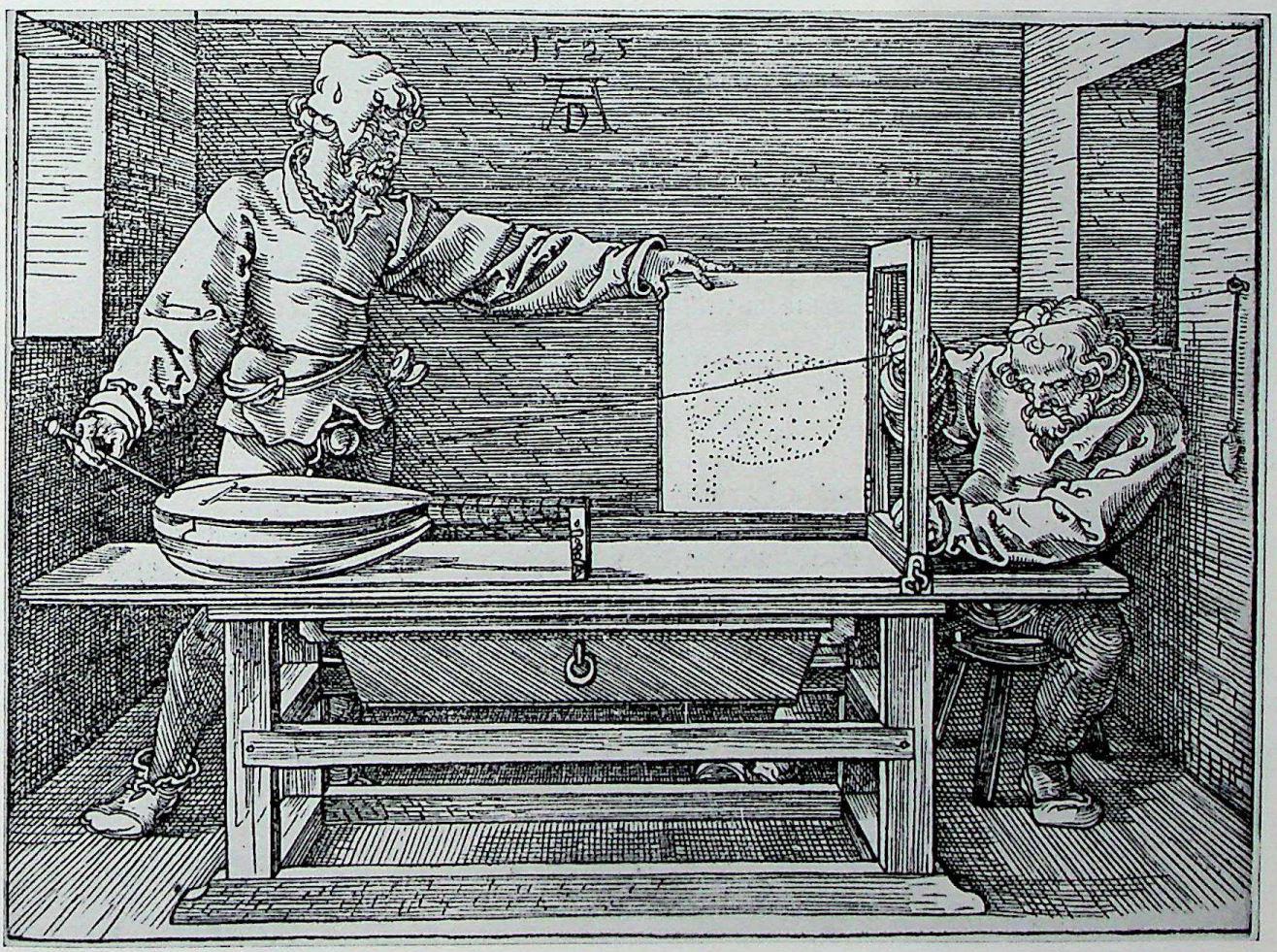
camera obscura have been found too faint to produce, in any moderate time, an effect upon the nitrate of silver."

The man who first successfully obtained an image from the sun was Nicéphore Niepce of France who, in 1827, attempted to present a paper to the Royal Society in London while he was in England visiting his brother Claude, like himself a dedicated inventor. Since he kept his process a secret, refusing to describe it with his paper, his proposal was rejected by the Royal Society. Accompanying his paper, however, were several photographs either on glass or metal. In 1853 Robert Hunt, one of photography's first historians, reported several of these plates to be in the collection of the Royal [British] Museum. Mr. Hunt writes, "They prove M. Niepce to have been acquainted with a method of forming pictures, by which the lights, semi-tints, and shadows, were represented as in nature; and he had also succeeded in rendering his heliographs, when once formed, impervious to the further effects of the solar rays. Some of these specimens appear in a state of advanced etchings."

It should not surprise us that these prints resembled etchings, since Niepce actually invented photogravure; and the examples Mr. Hunt saw might well have been "heliogravures" and not photographs taken in the camera obscura.



Engraving of 1525 by Albrecht Dürer (1471-1528), German, showing the artist's sighting device for drawing and teaching perspective. Courtesy The Art Institute of Chicago.

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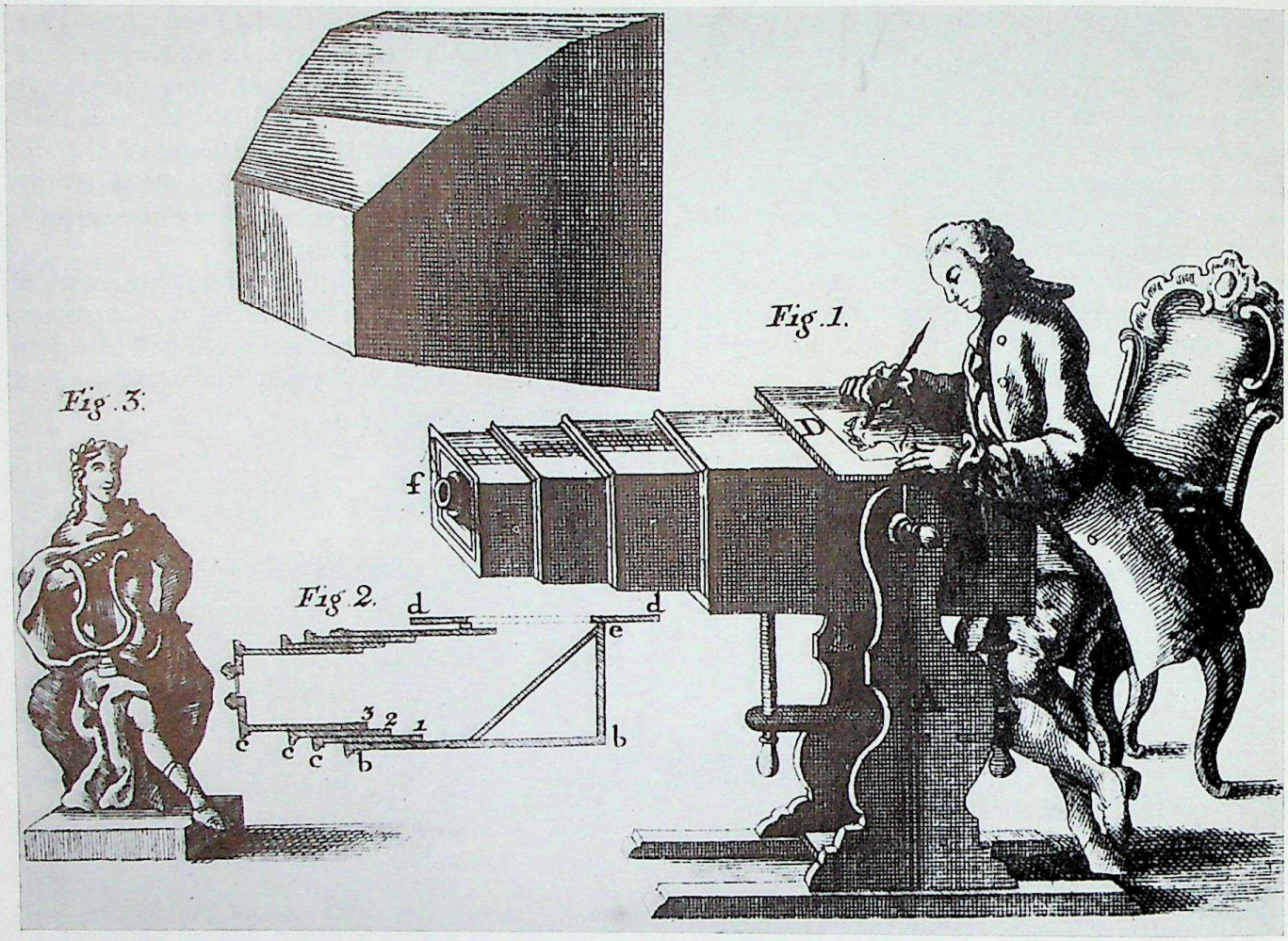
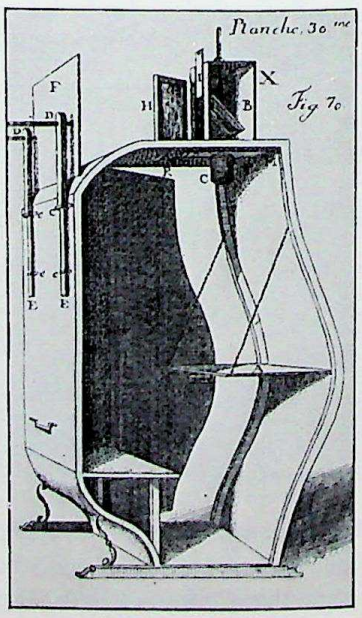


Table camera obscura, 1769, France.
Courtesy Gernsheim Collection.



right: Sedan-chair camera obscura, 1711.
Courtesy Gernsheim Collection.
center: Guyot's table camera obscura, 1770, France.
Courtesy Gernsheim Collection.
far right: An early nineteenth-century portable camera obscura.
Courtesy George Eastman House.

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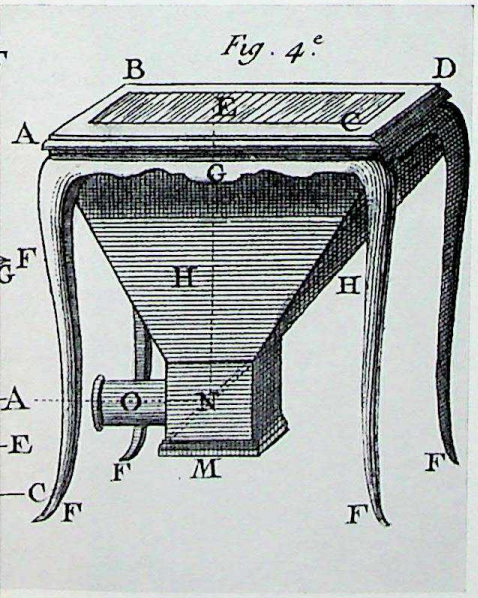
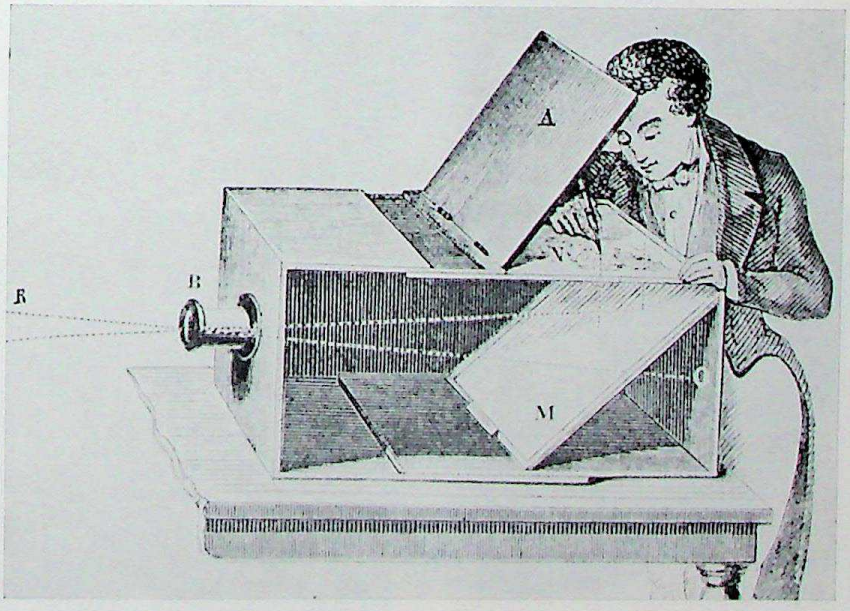
Johann Heinrich Schulze (1687-1744), German. He obtained the first images by the action of light on a mixture of white chalk and silver, in 1727. Courtesy George Eastman House.





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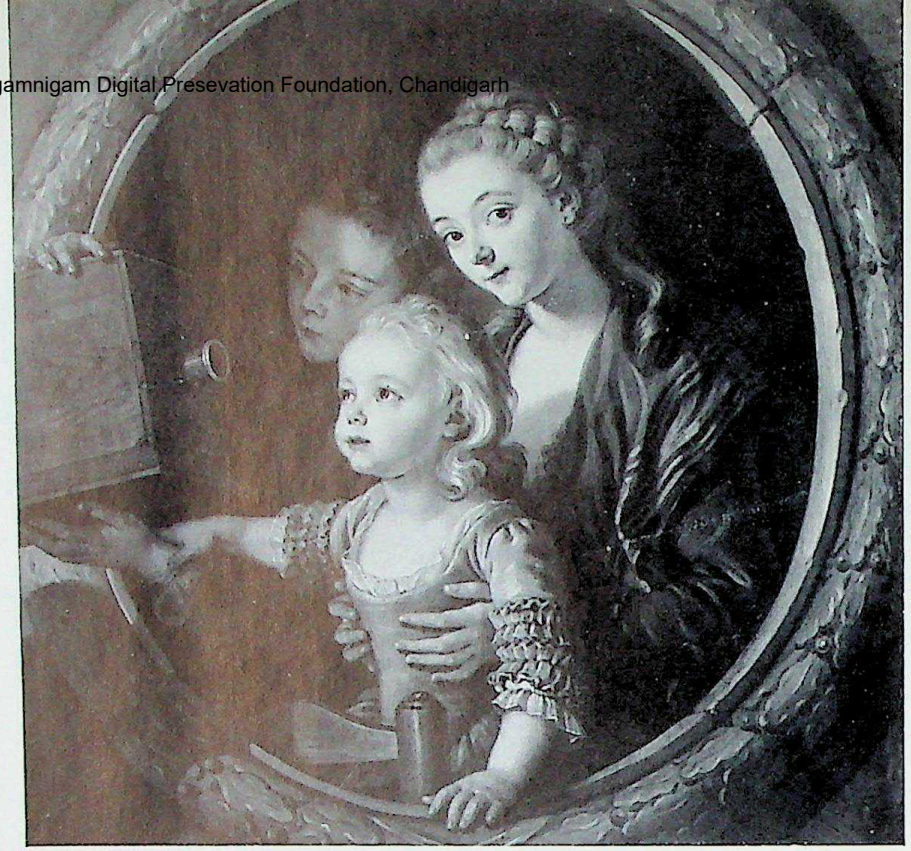

Painting showing the artist's family with a camera obscura, 1764. By Charles A. Philippe Vanloo, (1705-65), French. Courtesy National Gallery of Art, Washington.

Engraving of the German artist Joachim Franze Beich, by Johann Jakob Haid, mid-eighteenth century, showing a small camera obscura as part of the artist's paraphernalia. Courtesy George Eastman House.

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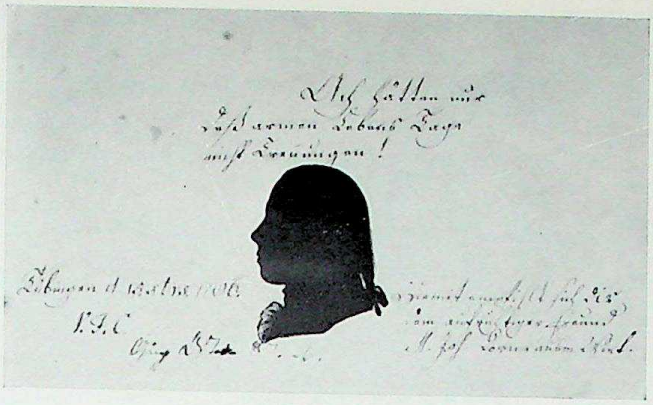
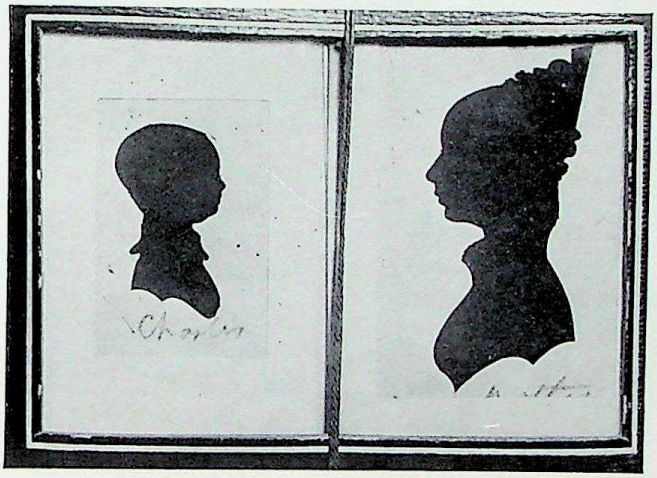


Silhouette. 1786, Germany. The eighteenth-century desire for portraits was satisfied by the simple method of cutting profiles from black paper. These were called "silhouettes," after Etienne de Silhouette, comptroller of finances in the court of Louis XV. Courtesy George Eastman House.



Silhouette. "Hand cut" of Charles Wage, age 2, and his mother. 1824, America. In the early nineteenth century, Rembrandt Peale, the American painter, made silhouettes which he called "profileographs." Courtesy The Art Institute of Chicago.

Portrait of Gilles-Louis Chrétien, 1792, French, who invented the "physionotrace" six years earlier; resembling the silhouette, the physionotrace had the added advantage of tracing small engravings. Courtesy George Eastman House

3917

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Camera lucida, designed by William Hyde Wollaston in 1806. This model was made four years later in London. It consists of three telescoping brass tubes, table clamp, 45° prism, adjustable peep sight, and spectacle lens to accomodate individual vision. Courtesy George Eastman House.

A lithograph of Wollaston from a sketch made with the camera lucida, which he invented. Courtesy George Eastman House.

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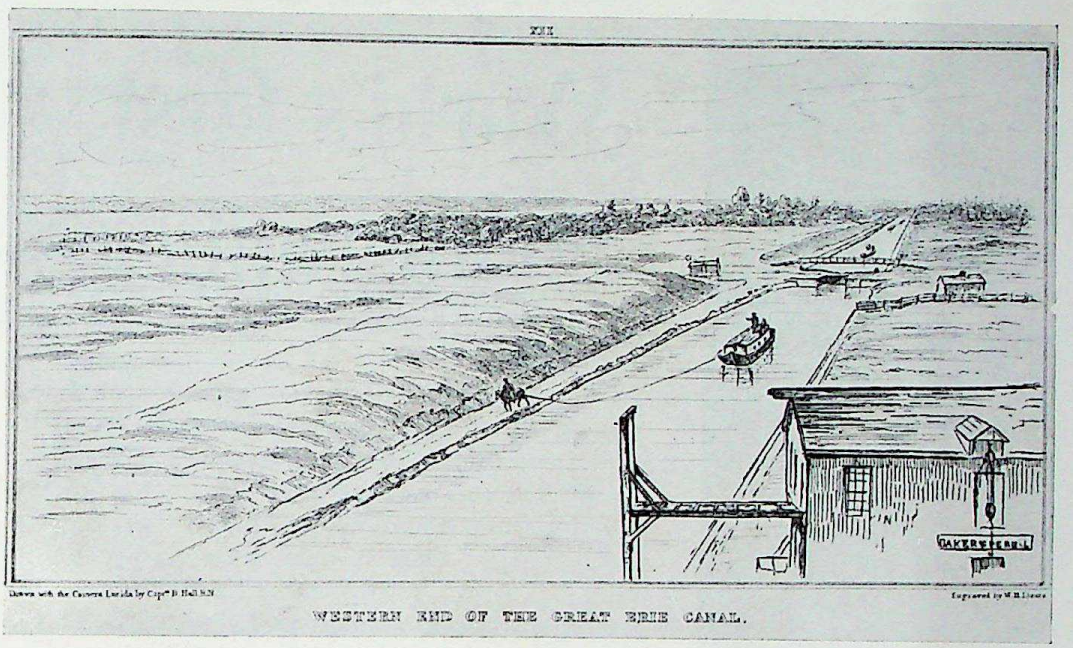
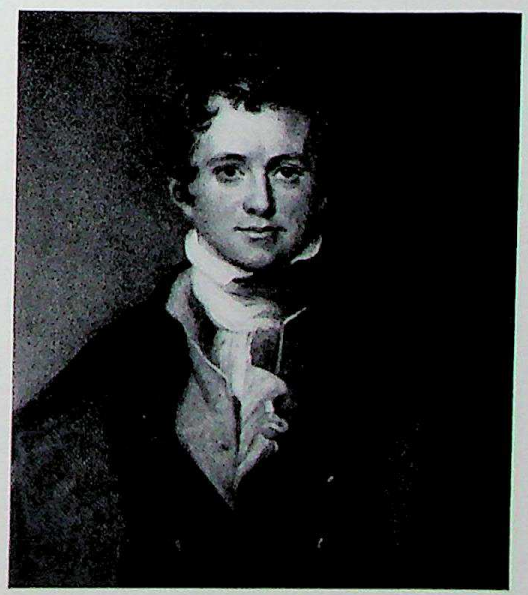
A sketch of the Erie Canal made 1827-28 with the camera lucida by Captain Basil Hall, R.N. It was copied, printed as an etching, and published in London in 1830 as one of Forty Etchings from Sketches Made with the Camera Lucida in North America, 1827-28, by Captain Basil Hall. *Courtesy Chicago Historical Society.*



Tom Wedgwood, the first to conceive the idea of practical photography, in the year 1800. He was unable, however, to fix the image. Courtesy George Eastman House.

Sir Humphrey Davy in 1802 presented a paper to the Royal Society in London explaining the experiments of Tom Wedgwood. Courtesy George Eastman House.



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2. Niepce: The World's First Photographer

IT IS GRATIFYING TO FIND Joseph Nicéphore Niepce eclipsed for more than a hundred years by his one-time partner, Louis J. M. Daguerre, now once again being honored as the world's first photographer. Niepce not only produced a picture in a camera obscura; he invented an iris diaphragm to correct defects he observed in the full lens (an invention forgotten for more than fifty years; it had to be reinvented). Above all, Niepce was the first to make the image permanent.

He called these images caught in the camera obscura "*points de vue*" to distinguish them from his "*copies de gravure.*" In the latter, he made a sandwich consisting of an engraving (made transparent with oil) placed between a sensitized plate and a sheet of clear glass; the glass kept the engraving flat while he exposed the array to the sun.

The images produced by both processes were referred to as "heliographs." The plates on which they were made were coated with bitumen of Judaea, a substance soluble in ethereal oils, such as oil of turpentine, oil of lavender, petroleum, and ether.

Niepce in 1813 had already been interested for several years in improving the process of lithography, which Alois Senefelder had invented in 1796. For Senefelder's heavy Bavarian limestone Niepce substituted a sheet of tin, upon which he had his young son draw designs with

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a greasy crayon. When the boy was called to the army in 1814, Niepce, unable to draw, found himself handicapped. He then began a series of experiments with various silver salts, intending to eliminate the need for an artist's talent by making light itself draw for him. He achieved the most satisfactory results with a varnish made of bitumen of Judaea dissolved in Dippel's animal oil. This solution he coated on a sheet of glass, copper, or pewter, exposing the sheet to the light from 2 to 4 hours to make a *copie de gravure* or fully 8 hours to produce a *point de vue*.

When the image on the varnish (or asphaltum, as it was also called) was hardened and the picture became visible to the eye, he brought the plate into a darkroom for treatment. First he subjected the plate to an acid bath which dissolved the varnish under the lines of the engraving. This varnish had been protected from the action of light during the exposure, and, accordingly, had remained soft and soluble. Niepce then sent the plate to his friend the artist-engraver, Lemaître (1797–1870), who incised the lines, inked the plate, and pulled an edition of prints as he would have done from any etched or engraved plate. Niepce's most successful heliograph was of Cardinal d'Amboise early in 1827.

According to the historian, Georges Potoniée, it can be proved that Niepce obtained a permanent impression in the camera obscura during the year 1822. However, only one of his *points de vue* that still exist can be dated definitely from the year 1826. This is in the collection of Helmut and Alison Gernsheim, who found it after a piece of research lasting years and involving trailing that would have pleased even the incomparable Sherlock Holmes. This picture seems certain to have been taken in 1826, because that was the year that Niepce turned to pewter instead of copper and zinc plates. Exposure took 8 hours, and this caused the sun to light both sides of the view, a building, taken from his room. Niepce wrote his son Isidore explaining that he preferred pewter, since it was darker than copper and bright when polished, so that the contrast of black and white lines remained much sharper.

His friend Lemaître suggested the perfect metal, silver plating on copper, which Daguerre was later to make universally popular in the daguerreotype. Niepce considered Lemaître's suggestion the perfect solution, for he intended to etch the best of his camera views, making incisions with a burin through the thin silver plate to the sturdier plate of copper below, which would enable him to pull an edition of prints.

Niepce continued to improve his heliogravure method, making the image a bit sharper by exposing the metal plate to the fumes of a few grains of iodine, then removing all the bitumen varnish to disclose the bare metal. The result was an image composed by the iodine vapors which had blackened the silver, contrasted to the shiny polished silver which had been under the hardened bitumen and which became visible when alcohol dissolved the varnish.

Niepce treated a glass plate as he did metal, with this distinguishing difference, that when the asphaltum was dissolved in oil of lavender, the plate was then washed and dried and viewed as a transparency. It is strange that Niepce, who was working toward a solution of the problem of making multiple reproductions, never seems to have used the transparency as a negative, to make prints from it on paper sensitized with silver salts. This negative-positive principle—from which all modern photography stems—was to be the invention of Fox Talbot several years later in England.

In 1829 the sixty-four-year-old Niepce was ill and badly in need of money. He and his brother Claude, who had died in England the previous year, had spent their patrimony on all kinds of inventions, prospering from none. There had never been a need to make money, for the Niepce family was rich and well-educated, and lived in a luxurious home at Châlons-sur-Sâone when Joseph was born in 1765. His father was a Councillor of the King, his mother the daughter of a noted lawyer. Joseph showed interest in inventions even while in his teens but studied to become a cleric, doffing the collar in 1792 to become an officer in the army, seeing active service in Sardinia and Italy. Ill health made him resign his commission, and for the next seven years he was in Nice as a member of the government administration.

He returned to his ancestral home in 1801 to devote himself immediately with his brother Claude to all kinds of scientific investigations, but it was heliography that was his major interest until he died in 1833.

Scientific research was costly even then. Niepce needed money desperately, but, even so, he didn't answer a letter from Daguerre, the successful entrepreneur of the Diorama in Paris, until a year had passed. And then he answered warily, giving no facts, but rather trying to ascertain the extent of Daguerre's experiments which, according to Daguerre, had been quite successful because of his invention of a new camera.

Returning from England later in that year, 1827, after visiting his sick brother, Niepce met with the affluent, prosperous Daguerre, twenty years his junior. They became partners in 1829, after Daguerre convinced Niepce not to publish his process even though he felt he couldn't

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improve it any further. Daguerre's letter reads, "... there should be found a way to get a large profit out of the invention before publication, apart from the honors you will receive."

In October, 1829, Niepce wrote Daguerre, offering to cooperate with him "for the purpose of perfecting the heliographic process and to combine the advantages which might result in a complete success." A ten-year partnership contract was signed by both parties on December 14, 1829, which reads in part, "M. Daguerre invites M. Niepce to join him in order to obtain the perfection of a new method discovered by M. Niepce, for fixing the images of nature without having recourse to an artist."

Niepce contributed his invention, Daguerre contributed "a new adaptation of the camera obscura, his talents, and his labor."

It appears to have been an uneven bargain, for to the Niepce-Daguerre partnership the camera of Daguerre was still an uncertain, untried asset and, actually, all that was known of photography was the contribution of Niepce. But Daguerre was a vital half of the partnership; the aged and ill Niepce was discouraged about the future of his experiments and badly in need of Daguerre's youth and self-confidence. Above all Niepce had faith in Daguerre's abiding interest in photography, his conviction that the process would be perfected and become a commercial success. Niepce included in the contract the proviso that his son Isidore would succeed to the partnership in case he died before the contract expired.

Niepce sent Daguerre a detailed description of his process, a note on heliography, completely explaining the preparation of silver, copper, or glass plates, the proportions of the various mixtures, the solvents used in developing the image, the washing and fixing procedures, and the application of his latest experiments in the heliograph—using iodine vapors to blacken the image.

Niepce also demonstrated his techniques to Daguerre, who went to Châlons for this purpose. Daguerre left for Paris several days later and never saw Niepce again. Each man worked on the invention; little is known of their progress other than that Daguerre wrote in 1831, asking Niepce to experiment with iodine in combination with silver salts as a light-sensitive substance. Niepce did not respond enthusiastically. He had not been too successful in previous experiments with silver iodide—a silver halide which only when mixed in exactly the proper proportions can be made sensitive to light.

opposite page: Portrait of Nicéphore Niepce as a young man, *about 1785. Artist unknown. Courtesy Janine Niepce, Paris.*
left: Portrait of Nicéphore Niepce, *inventor of photography, painted by Leonard Berger 20 years after Niepce's death. Courtesy George Eastman House, Rochester.*

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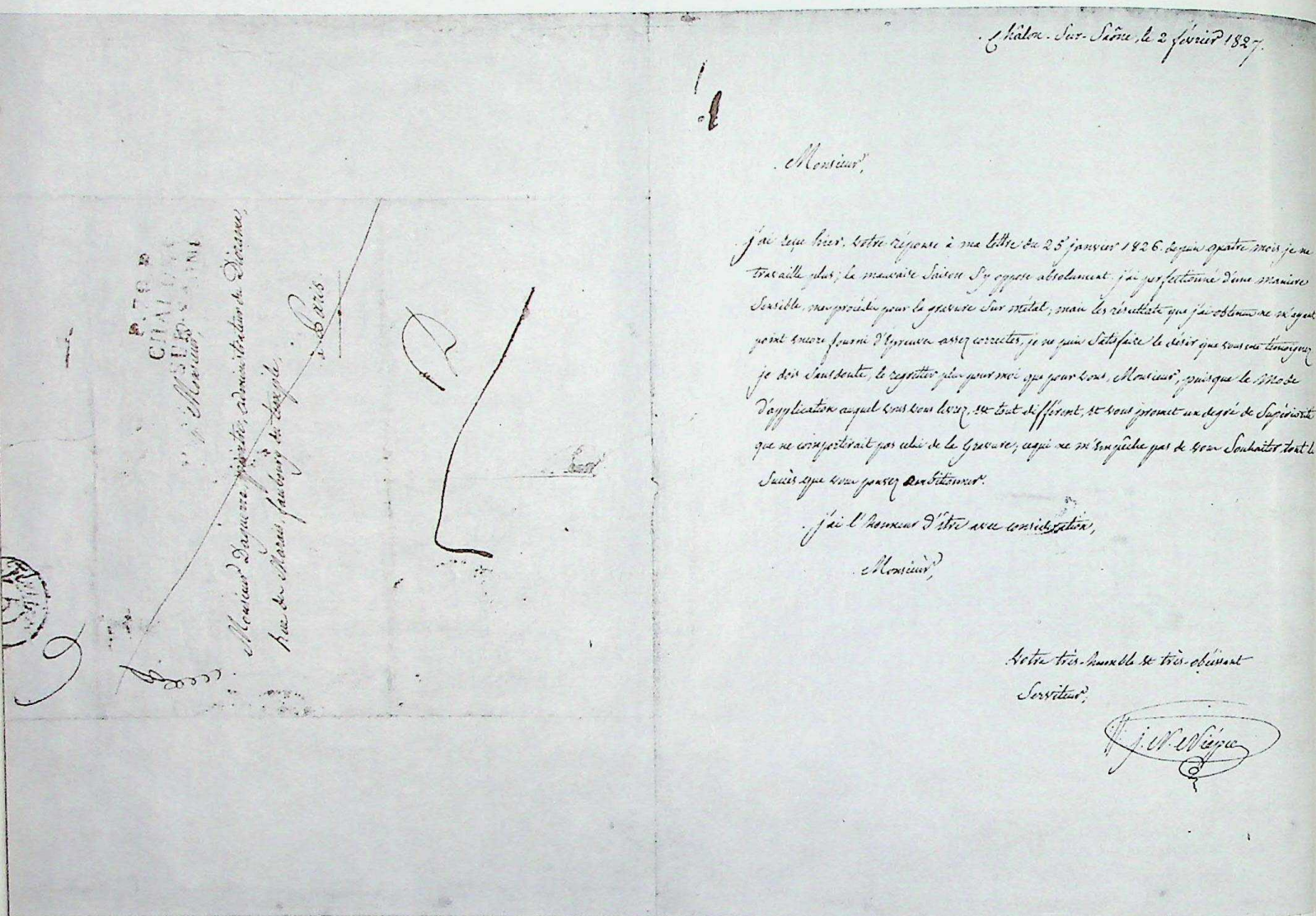

Châlon-Sur-Saône, le 2 février 1827.

Monsieur,

J'ai reçu hier votre réponse à ma lettre du 25 janvier 1826. Depuis quatre mois je me travaille plus, le mauvais Saison s'y oppose absolument. J'ai perfectionné d'une manière sensible mon procédé pour la gravure sur métal, mais les résultats que j'en obtiens ne sont point encore fournir d'épreuves assez correctes, je ne puis satisfaire le désir que vous me témoignez je dois toutefois le regretter plus pour moi que pour vous, Monsieur, puisque le Mode d'application auquel vous vous livrez, est tout différent, et vous promet un degré de Supériorité que ne comporterait pas celui de la Gravure, auquel ne m'en empêche pas de vous souhaiter tout le Succès que vous pouvez en désirer.

J'ai l'honneur d'être avec considération,

Monsieur,

Votre très-humble et très-obéissant Serviteur,

J. N. Niépce

Letter dated February 2, 1827, from Niepce in which he discourages Daguerre from continuing negotiations. Taken from Anales del museo La Plata documentos historicos relativos descobrimiento de la fotografia, *Buenos Aires, 1892. Courtesy the John Crerar Library, Chicago.*

The letter reads:

Châlons-sur-Saône
2 February 1827

I received your reply yesterday answering my letter of 25 January 1826. The last four months I have not worked; the winter months are not too favorable. I have considerably improved my process of engraving on metal, but the results I have obtained are not yet good enough, and so I cannot satisfy the desire which you express. I ought doubtless to regret this more for my sake than for yours, sir, since your mode of application is quite different and promises you a degree of superiority over my engraving method. This does not prevent me from wishing you all the success which you could hope for.

I remain your humble servant
Niepce

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ci-après.

. article 12. Les comptes du caissier et l'état de situation seront arrêtés, signés et paraphés chaque semestre par les deux associés.

. art.^r 13. les améliorations et perfectionnemens apportés à la dite découverte, ainsi que les perfectionnemens apportés à la chambre noire, seront et demeureront acquis au profit des deux associés qui, lorsqu'ils seront parvenus au but qu'ils se proposent, feront un traité définitif entre eux, sur les bases du présent.

. art.^r 14. . les bénéfices des associés dans les produits nets de la Société, seront répartis par moitié entre Mr Niépce en sa qualité d'inventeur, et Mr Daguerre, pour ses perfectionnemens.

. art.^r 15. . les contestations qui pourraient s'élever entre les associés, à raison de l'exécution du présent, seront jugées définitivement sans appel ni recours en cassation, par des arbitres nommés par chacune des parties, à l'amiable, conformément à l'article 51 du Code de Commerce.

. art.^r 16. En cas de dissolution de cette Société, la liquidation s'en fera par le caissier, à l'amiable, ou par les associés ensemble, ou enfin, par une personne tierce qu'elles nommeront à l'amiable, ou qui sera nommée par le tribunal compétent à la diligence du plus actif des associés.

. Le tout a été ainsi réglé provisoirement entre les parties qui, pour l'exécution du présent, font élection de domicile en leur demeure respective, ci-devant désignées.

. fait double et signé à Châlon-sur-Saône, le 14 Décembre 1829.

J. N. Niépce

J'approuve quoique non écrit de ma main.

Daguerre

Je soussigné, en ma qualité de seul et unique héritier de mon père, déclare avoir pris parfaite connaissance du présent traité, et m'engage à en remplir scrupuleusement toutes les clauses sous peine de dommages et intérêts, ainsi qu'il est stipulé dans l'article 6.

Fait à Paris, le neuf mai mil huit cent huit cinq.

J. Niépce

Signatures of Joseph Nicéphore Niepce and Louis-Jacques-Mandé Daguerre on their contract of December 14, 1829. This contract, two letters from Niepce to Daguerre, and the contracts of Daguerre and Isidore Niepce were in the possession of Arago. Courtesy the John Crerar Library.

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NICEPHORE NIEPCE
The world's first photograph. On pewter, 1826. Courtesy Gernsheim Collection, London.

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NICEPHORE NIEPCE, Cardinal d'Amboise. *Print pulled from a heliograph engraving made in 1826. Courtesy Gernsheim Collection.*

Tomb of Nicéphore Niepce and monument erected in 1933 at Saint-Loup-de-Varennes, a century after Niepce's death. Courtesy Janine Niepce, Paris.

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3. Daguerre and the Daguerreotype

Louis-Jacques-Mandé Daguerre (1787–1851) did not invent photography, but he made it work, made it popular, and made it his own.

Within a year after its announcement in 1839 his name and his process were known in all parts of the world. Honors were showered on him and wealth and security were his. The name of Joseph Nicéphore Niepce was practically forgotten.

It was Daguerre, however, who actually made the Niepce invention work, using chemicals that Niepce never hit upon. His ingenious idea was to bring out the image by the vapor of mercury. He experimented first with bichloride of mercury, which just barely brought out the image; improved it by using sweet or subchloride of mercury; and, finally, in 1837, after eleven years of experimentation, hit upon the heating of mercury, letting the vapors develop the image. He then fixed the image perfectly and permanently by using a strong solution of common salt and hot water to dissolve away the particles of silver iodine not affected by the light.

Daguerre's principle of development by mercury vapor was original, a workable process based undoubtedly on knowledge he gained from Niepce. Niepce, however, contributed nothing to further the invention after 1829, nor did his son Isidore. Isidore became Daguerre's partner after Niepce died impoverished at the age of sixty-nine

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in the year 1833. The son, badly in need of money, signed a new contract several years later, stating that Daguerre was the inventor of the daguerreotype; and he permitted the original name of the firm, Niepce-Daguerre, to be reversed.

These were the steps of Daguerre's process:

1. Thin sheet of silver soldered onto a thicker sheet of copper.
2. Silver surface polished to a perfect finish.
3. Silver plate iodized by fumes of iodine making it sensitive to the light.
4. Prepared plate put in light-tight holder in the dark; plate holder placed in camera.
5. Camera placed on tripod, set in landscape, and pointed to any object in direct sunlight.
6. Lens uncovered 15 to 30 minutes (the best time for a picture by Niepce was 8 hours).
7. Latent image developed and made permanent by the following steps:
   a. Plate placed in a cabinet on a 45° angle above a container under which a spirit lamp heated the mercury to 150°F.
   b. Plate watched carefully until picture was made quite visible by the mercury particles adhering to the exposed silver.
   c. Plate plunged into cold water to harden surface.
   d. Plate submerged in a solution of common salt (after 1839 replaced by hyposulphite of soda, the fixing agent discovered by Sir John Herschel and immediately adopted by Daguerre).
   e. Plate then thoroughly washed to stop the action of the fixing agent.

The result was an individual picture, a positive. It could be seen only in certain lights; in direct rays of the sun it became a shiny sheet of metal. The image was reversed as in a mirror. It could not be multiplied or printed in unlimited numbers, as positives can be from a single negative—the negative-positive principle of photography was the invention of Fox Talbot. Both discoveries were announced in the same year.

To make the most of his invention Daguerre first tried to organize a corporation by public subscription. When this was unsuccessful, he attempted to sell it for a quarter of a million francs, but to cautious speculators this appeared too much of a gamble.

Daguerre created considerable interest, for he took pictures with his heavy camera and equipment along the boulevards of Paris. But he did not explain the operation and businessmen remained cold to its possibilities.

Daguerre then interested scientists in the invention, particularly the influential astronomer, Dominique François Arago (1786–1853). Arago, believing a rumor that Russia and England were offering to buy the daguerreotype, reported Daguerre's achievement on January 7, 1839, to the Academy of Sciences, and proposed that the French government purchase the process.

The announcement of the daguerreotype produced a sensation. Scientific journals printed Arago's report. Daguerre became better known for this invention than for his well-established Diorama. He showed views of Paris taken by the daguerreotype process to newspaper editors, writers, and artists, who acclaimed him and his invention. Daguerre asked 200,000 francs for it and told Isidore Niepce he would split this with him if it were sold, deducting the amount Isidore had borrowed from him since his father's death.

Arago convinced Daguerre that a pension by the French government would be more of an honor, a national award of recognition for his invention, and he wrote Daguerre, "You will not suffer that we shall allow foreign nations the glory of presenting to the scientific and artistic world one of the most marvelous discoveries that honor our country."

A pension was agreed upon—6,000 francs annually for life to Daguerre and 4,000 for Isidore Niepce, with half pension for their widows. The proposal was presented to the Chamber of Deputies on June 15, 1839 and passed by King Louis Philippe a month later. On August 19 Arago made public Daguerre's startling method of obtaining a pictorial image from nature in all its details, unaided by the hand of an artist, a picture entirely drawn by the sun.

Arago's report was brilliant. He dazzled the audience with superb daguerreotypes taken by Daguerre. The members of the Academy of Sciences and the equally revered Academy of Fine Arts were entranced. Some of the finest intellects of France and of all Europe were present. Arago described the history of photography—making a number of errors, such as attributing the invention of the camera obscura to Della Porta and slighting Niepce's contribution—but he explained the daguerreotype process in scientific terms and in some detail. With clear insight he predicted its importance for the future, the consequences it would have in recording history. He closed his impassioned speech with the words, "France has adopted this discovery and from the first has shown her pride in being able to donate it generously to the whole world." Arago was apparently unaware that, just five days before, on August 14, Daguerre had secured a patent in England. The future looked rewarding.

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Daguerre was again secure financially. Only several months before, on March 8, when his famous Diorama was burned to the ground, he had seemed destitute.

It was the Diorama, a huge, special structure with enormous 72-by-46-foot canvases, that, apparently, had brought Daguerre to experiment with photography. He was well acquainted with the camera obscura, and had made sketches from nature in his attempts to create an illusion of reality. In the Diorama he painted tremendous canvases so astonishingly realistic that visitors believed they were three-dimensional constructions in the building. He introduced the innovation of painting pictures on both sides of this canvas. The demands of the Diorama taxed his ingenuity, but he met its challenge by creating gigantic pictures with translucent and opaque paints, inventing shutters and screens to control the natural light that entered through the windows; and he developed spectacular effects in some scenes by manipulating oil lamps as spots and, in the last five years of the Diorama's existence, by using gaslight for even more novel illusionary effects. When he opened the Diorama in 1822 in Paris he was already well known as a painter of panoramas 350 feet long and 50 feet high and as a stage designer. He had received some acclaim for his easel paintings in *trompe-l'oeil* (pictures so realistic as to "fool the eye"). One of these paintings, undoubtedly his best, *Ruin of Holyrood Chapel*, earned him the red ribbon of the Legion of Honor when it was exhibited in 1824. He was to receive the rank of *officier* fifteen years later when the daguerreotype was announced.

This resourceful, colorful showman, who was his own greatest creation, came from a *petit-bourgeois* family. He was the son of a clerk employed on the royal estate in Orléans. The young Louis' formal education ended at fourteen. He was apprenticed for three years to an architect where he learned perspective and accurate architectural drafting. This experience, added to his natural gift for drawing, prepared him for another term of apprenticeship, this time for three years, to Degotti, the celebrated designer for stage and opera. After this term he became assistant to Prevost, a noted stage designer of the period with whom he remained for nine years, until 1813. Daguerre's work was singled out for praise by the critics —he was mentioned among actors, singers, composers, and conductors. The public applauded his elaborate productions and ingenious stage devices.

The Diorama was his crowning achievement as the creator of imposing spectacles. It was as popular as the movies are in our day and met about the same need for entertainment, travel, and illusion. In 1823, a year after they opened the Paris Diorama, Daguerre and his partner Bouton, also a painter of huge canvases, built a similar structure in London. Most of the thirty-one dioramas they painted for Paris were given an average showing of seven months and were then sent for viewing in the London Diorama. The exhibitions included such elaborate paintings as *The Valley of Sarnen in Switzerland, Interior of Chartres Cathedral, Effect of Fog and Snow Seen through a Ruined Gothic Colonnade, The Beginning of the Deluge, The Tomb of Napoleon at St. Helena,* the *Grand Canal of Venice,* and the *Solomon's Temple,* which burned with the Diorama in Paris but for which a sketch remains.

Interest in the Diorama had been waning; it had been operating at a loss when, in 1838, Daguerre tried to gain government support for it as an attraction that brought visitors to Paris. No funds were forthcoming. Daguerre threatened to close the Diorama and move to London, where the Diorama was still popular and profitable.

First official recognition of his contribution as a painter and creator of the diorama came when Arago had him include details of his diorama technique in the agreement with the government in which he disclosed the steps for making a daguerreotype. This was a ruse to obtain for Daguerre the greater share of the pension granted by the government, 6,000 francs for Daguerre and 4,000 for Isidore Niepce. How advantageous, when Daguerre had no plans to reopen the Diorama!

He concentrated on explaining the daguerreotype process, giving demonstrations to scientists and artists, simplifying the complicated scientific account given by Arago and exhibiting his own examples of the art. Daguerre started to manufacture apparatus for the daguerreotype with his brother-in-law, Giroux. Giroux, a stationer, quickly gave up his other business to devote himself exclusively to production of the Giroux camera. Chevalier ground the lenses; and each camera was stamped with a serial number, and signed by Daguerre, who thus made it official. Half the profits of this partnership were to go to Daguerre, who generously gave Isidore Niepce 50 per cent of his share.

The day after Arago made his report Giroux published Daguerre's seventy-nine-page manual. All the cameras he had on hand as well as the manual were sold out in a few days. The pamphlet went through thirty editions in French. Before the year was out it was translated into all languages and printed in all the capitals of Europe and in the city of New York.

Artists, scientists, and the general public quickly improved and modified Daguerre's process, shortening the

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Daguerre was often a subject for artist friends. This lithograph by Henri-Grevedon was drawn in 1837, two years before Daguerre published the daguerreotype process. Courtesy George Eastman House, Rochester.

exposure to several minutes, so that portraits seemed feasible and in one month became an actuality.

Samuel F. B. Morse, the artist and inventor of the telegraph, met Daguerre in Paris. Morse had written soon after the Diorama had burned down to inform Daguerre that he had been elected an honorary member of the National Academy of Design in New York; that the description of the daguerreotype Morse had sent home had been published in many American papers; and that, if Daguerre could prevail upon the French government to permit an exhibition of daguerreotypes to be shown in the United States six months before the process would be demonstrated in France, Daguerre would derive a "pecuniary advantage." There was no reply by Daguerre to this letter.

By September 20, 1839, Morse had his wife and daughter "sit from 10 to 20 minutes, out of doors, on the roof of a building, in the full sunlight and with the eyes closed." This is believed to be the first daguerreotype *portrait* taken in the world.

These long exposures were torture. It became obvious that the full-size 6½-by-8½-inch plate was too big for portraiture. This was remedied immediately by reducing its size to a quarter plate, bringing the required time

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down to 2 minutes. Improved lenses, especially one invented by Josef Max Petzval in 1840, a fast achromatic lens with large aperture, were decisive factors in making portraits possible. The conclusive discovery was that of faster chemicals. Mercury speeded up with bromine and chlorine vapors made the plate more sensitive, cutting quarter-plate exposure time down to 30 seconds.

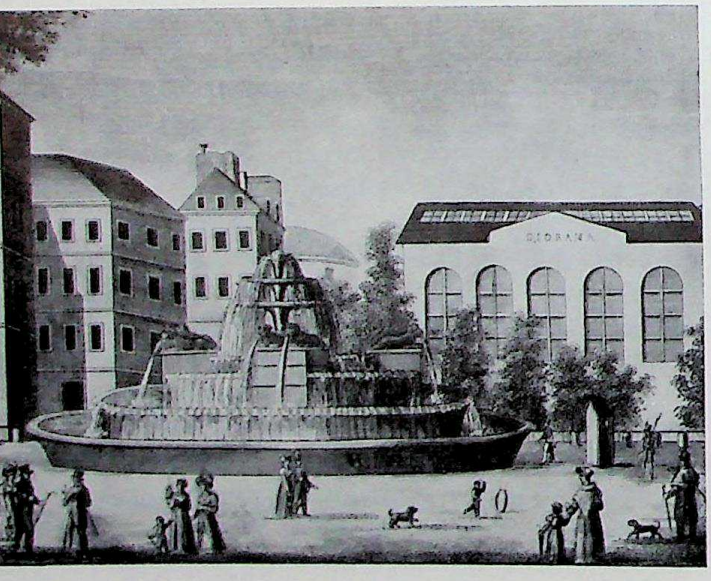
Portraiture became a reality for the multitudes.

A prism turned the image around from its left-to-right-reversed attitude, so that the portrait was seen normally, as one is seen by people, not as one sees oneself in a mirror. A decided step forward was the construction, by 1841, of smaller apparatus that reduced Daguerre's 110 pounds of equipment to less than 9 pounds. Still further improvement was protection for the daguerreotype surface which was fragile and easily scratched or damaged. Hippolyte Fizeau, in 1840, had the thought of toning the image with chloride of gold. This not only increased the contrast of the image; it produced the beautiful deep, silvery-gray tone that oxidized into a rich, purplish brown.

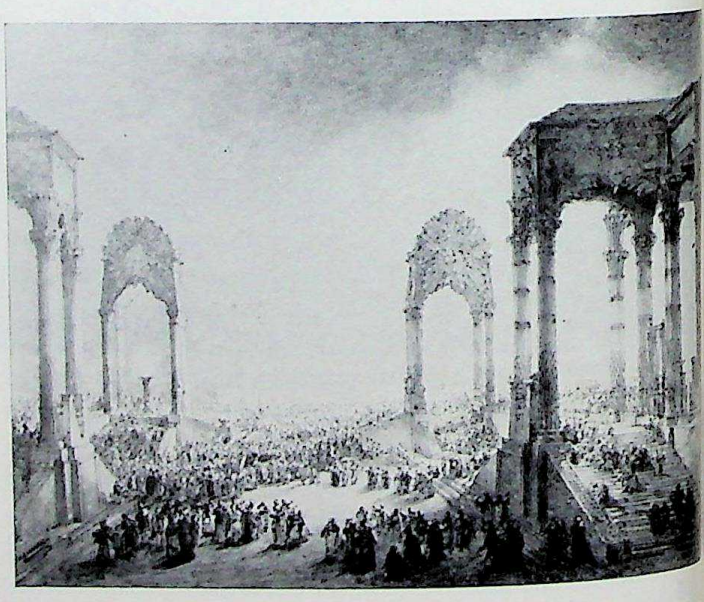
Daguerre received honors and acclaim as his invention conquered the imagination of people everywhere. He himself, however, made no further contribution to photography after publication of his process. Until he died in 1851, he lived in retirement at Bry-sur-Marne about 6 miles from Paris. In 1843 he claimed to have perfected instantaneous photography, to have taken a bird in flight; but he could not prove his claim.

His last work was a return to his first and abiding love, a *trompe-l'oeil* painting representing soaring columns, deep vaulting, and stained-glass windows. He placed it behind the altar of a simple church in Bry, transforming the small church by his "magical" art into a great Gothic cathedral.

The inventor of the daguerreotype lies buried in a tomb, donated by his fellow citizens of Bry, where he was interred July 10, 1851, soon after his death.



The Diorama in Paris, *about 1830, in which enormous paintings by Daguerre, 72 x 46 feet, were displayed. Wood engraving. Artist unknown. Courtesy George Eastman House.*



Solomon's Temple, *a sketch in color for the last Paris Diorama presentation, on view September 15, 1836, to March 8, 1839, when the Diorama burned to the ground. Courtesy George Eastman House.*

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Diorama ticket, good for two, signed by Daguerre, 1830. Courtesy George Eastman House.

Holyrood Chapel, Edinburgh, *oil painting by Daguerre, 1824. Considered Daguerre's best easel painting. He was awarded the Legion of Honor when it was exhibited. Courtesy Walker Art Gallery, Liverpool.*

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LOUIS-JACQUES-MANDE DAGUERRE, *The earliest surviving daguerreotype. Taken in the artist's studio, 1837. Courtesy Société française de photographie, Paris.*

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HISTORIQUE ET DESCRIPTION

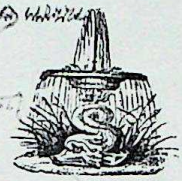
DES PROCÉDÉS DU

DAGUERRÉOTYPE

ET DU DIORAMA,

PAR DAGUERRE,

Peintre, inventeur du Diorama, officier de la Légion-d'Honneur, membre de plusieurs Académies, etc., etc.



PARIS.

ALPHONSE GIROUX ET Cie,
RUE DU COQ-SAINT-HONORÉ, 7,
Où se fabriquent les Appareils,
DELLOYE, LIBRAIRE,
PLACE DE LA BOURSE, 13.

1839.

The rare title page of the first edition of Daguerre's instruction manual, with imprint by Alphonse Giroux. Written in longhand on its face by M. Mentienne, son of Daguerre's closest friend, the mayor of Bry, is the inscription, "Given to my father by Daguerre in 1840." Courtesy George Eastman House.

Talent Through Sleep. *The press caricatured the daguerreotype from the very beginning. In the periodical* Today, *March 15, 1840, less than a year after Daguerre's process was announced, Gérard Fontallard satirized the long exposure necessary. Courtesy Gernsheim Collection, London.*

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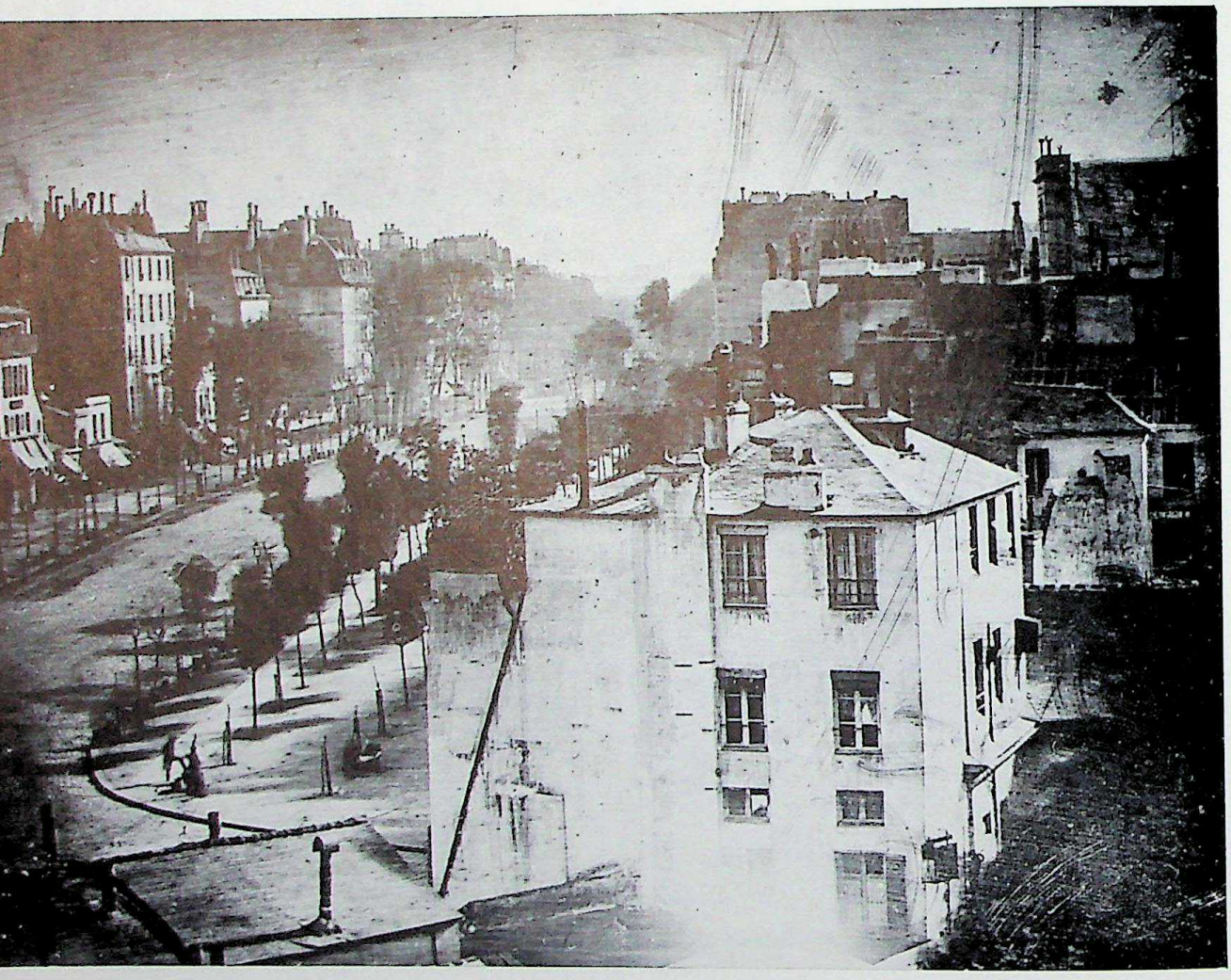

LOUIS-JACQUES-MANDE DAGUERRE, Paris Boulevard. *Daguerreotype, 1839. Sent by Daguerre to the King of Bavaria. This photograph (see detail on the facing page) is the first taken of a human being. The original, formerly in the National Museum, Munich, was destroyed during World War II. Samuel F. B. Morse wrote when he saw this daguerreotype, "The boulevard, so constantly filled with a moving throng of pedestrians and carriages, was perfectly solitary, except for an individual who was having his boots brushed." Courtesy George Eastman House.*

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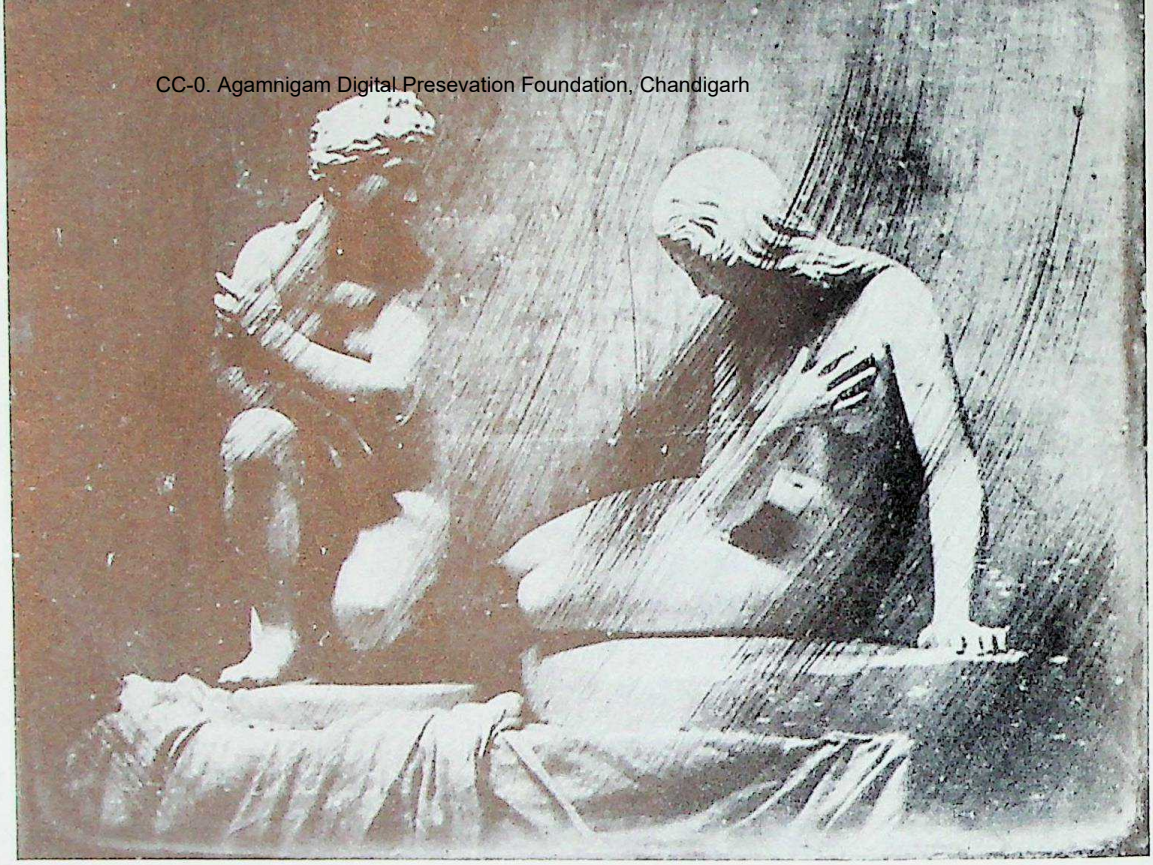

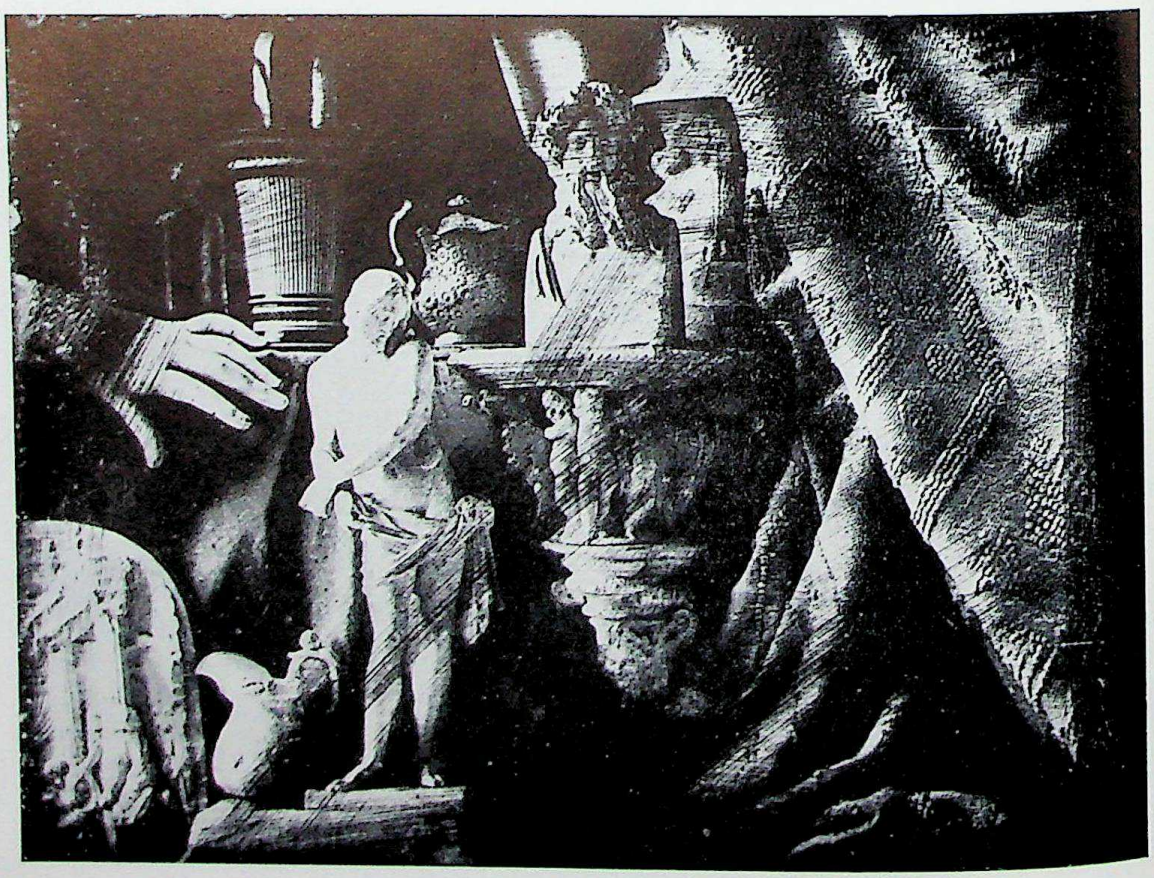

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Daguerreotypes by Daguerre, made 1839, rediscovered 1955. Dominique-François Arago showed the following three of a group that Daguerre furnished to him in August, 1839, at the meeting of the Academy of Sciences in which he made Daguerre's process known. Two years later he presented the Perpignan Museum with these daguerreotypes. On the back of each is written, "Picture which served to prove the discovery of the Daguerreotype, given to M. Arago by his very humble servant Daguerre." above: View of Paris. *opposite page, above:* Sculpture. *left:* Still Life.

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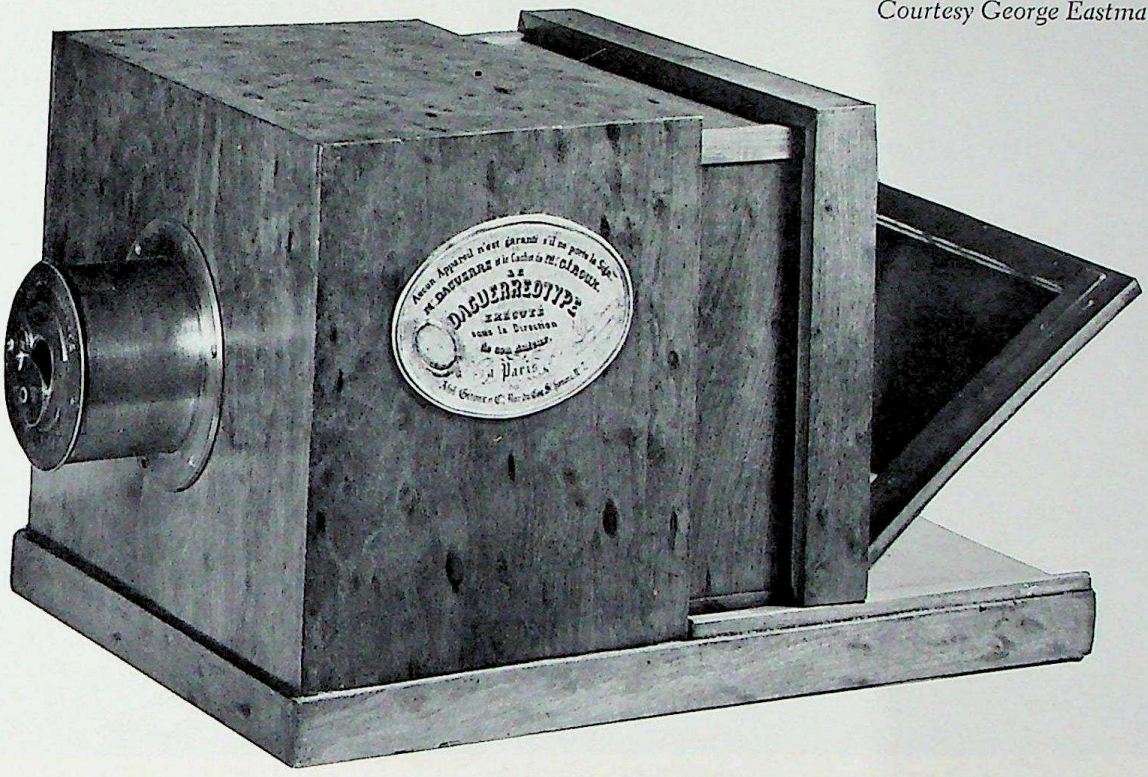
The official Daguerre camera produced by Daguerre's brother-in-law, Alphonse Giroux, with close-up of label which reads, "No apparatus guaranteed if it does not bear the signature of M. Daguerre and the seal of M. Giroux. The Daguerreotype, made under the direction of the inventor in Paris by Alphonse Giroux et Cie. Rue de Coq St. Honoré, No. 7." The camera measured 12 by 14½ by 20 inches. Courtesy George Eastman House.



JEAN-BAPTISTE SABATIER BLOT
Daguerre. *Daguerreotype, 1844.*
Courtesy George Eastman House.

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The official Daguerreotype camera was used on February 27, 1840, by Barthelmy-Urbain Bianchi, a Toulouse optical-instrument maker, who exposed 10 minutes to take the city hall of his home town and the Place du Capitole. An art exhibition, the first ever photographed, hangs on the wall of the city hall. The blob of black beneath the paintings is from active spectators attending the exhibition who left only "ghost" images although the sun bathers and seated sentries left their permanent mark. The image is reversed, as in all early daguerreotypes. Courtesy George Eastman House.

Camera and equipment designed by Gaudin and manufactured by Lerebours in 1841 for taking and processing daguerreotypes of 1/6 size. Outer wooden box serves both as camera and as carrying case for following accessories: glass lined coating box, mercury bath with sliding support, two single plate holders, slotted box to hold twelve plates. In little more than a year Daguerre's 110 pounds of equipment had been reduced to less than 10. Courtesy George Eastman House.

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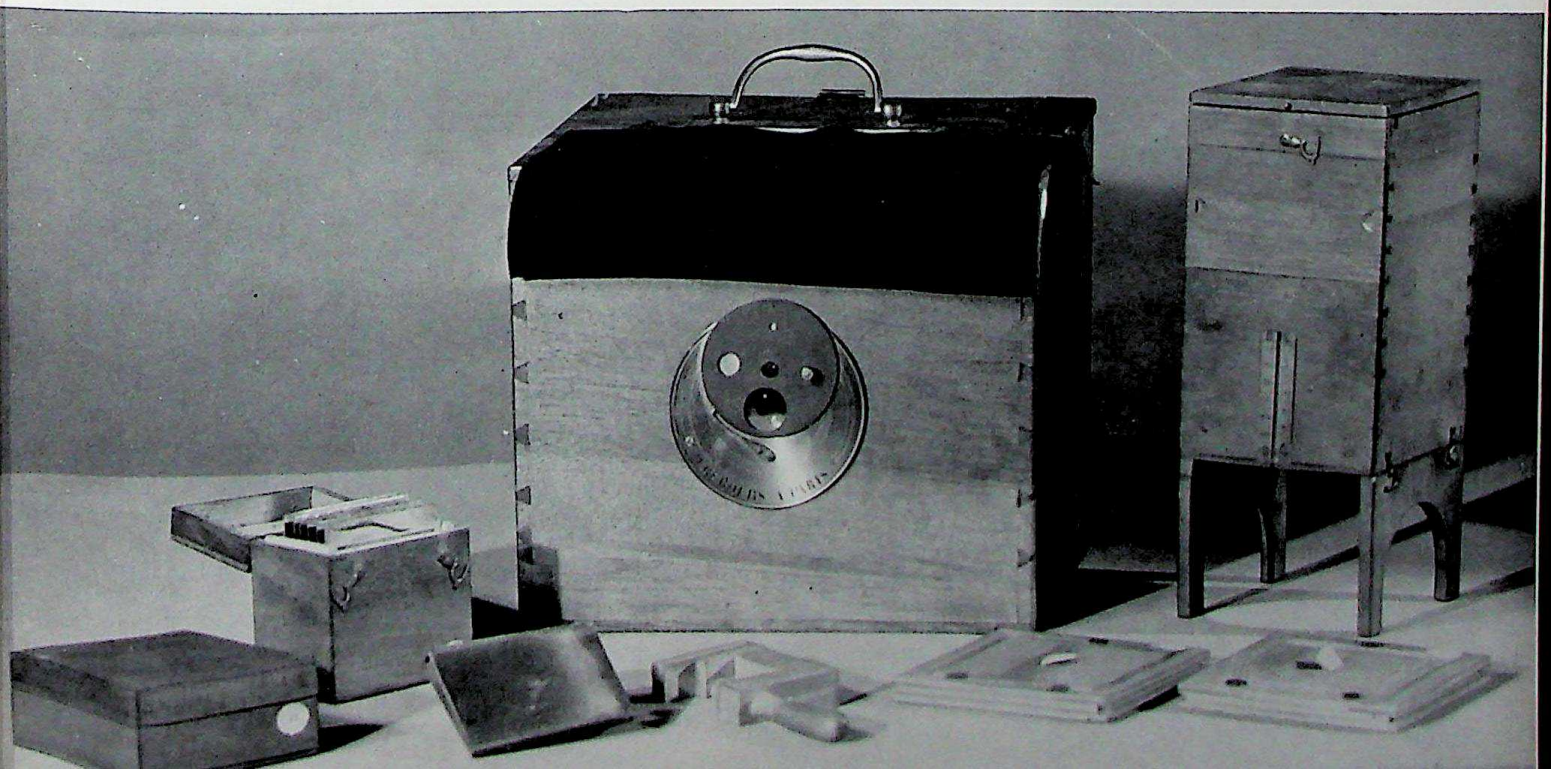
Daguerreotype camera designed by Joseph Petzval in 1841 for round plates 9 centimeters in diameter, with lens he designed the previous year. The all-metal camera manufactured by F. F. von Voigtländer in Germany was particularly popular in America, where it was sold by the Langenheim brothers of Philadelphia. Courtesy George Eastman House.



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4. The Daguerreotype in Europe

THE VERY FIRST YEAR of Daguerre's invention, enterprising publishers already saw great possibilities for profit from the travel books with reproductions of daguerreotype views. N. P. Lerebours of Paris, an optician who manufactured daguerreotype cameras closely resembling the official Giroux camera, hired artists and cameramen, equipped them with his outfits, and sent them to Italy, Greece, North Africa, Egypt, Damascus, Sweden, England, and as far west as Niagara Falls in the United States. Few of the daguerreotypists he commissioned are known by name today, and most of their original daguerreotypes have been lost.

Horace Vernet, romantic painter of battle scenes, accompanied by his nephew, Charles Bouton, and another artist photographer, Frederic Goupil-Fesquet, traveled for Lerebours in Egypt; on November 6, 1839, he wrote from Alexandria, "We keep Daguerreotyping like lions." Between 1840 and 1842 Lerebours published, from the thousands of daguerreotypes he had commissioned, 114 plates in aquatint as "Excursions Daguerriennes."

These aquatints and etchings were reproductions of daguerreotypes. Some images were traced directly, a procedure which scratched or irreparably ruined the silver plates. Aquatints were preferred to lithographs or woodcuts, for it was believed that they retained more of the daguerreotype's original subtleties of tonality and light. To his business in daguerreotype apparatus, lenses, and

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publications, Lerebours added the sale of original daguerreotypes of travel views.

Tourists, writers, and artists took daguerreotype cameras with them on trips, not only to secure records but to provide illustrations for future publications. Théophile Gautier wrote that he went to Spain with daguerreotype apparatus, but his success was negligible, for he had not mastered the technical problems of taking pictures. Joseph P. Girault de Prangy went to the Middle East, returning in 1844, after a two-year sojourn, with perfect daguerreotypes that he used to make illustrations for his book *Arabian Architecture and Monuments of Egypt, Syria, and Asia Minor*. An impressive selection of his original daguerreotypes, recently found in perfect condition, has been acquired by Helmut and Alison Gernsheim, for their famous collection.

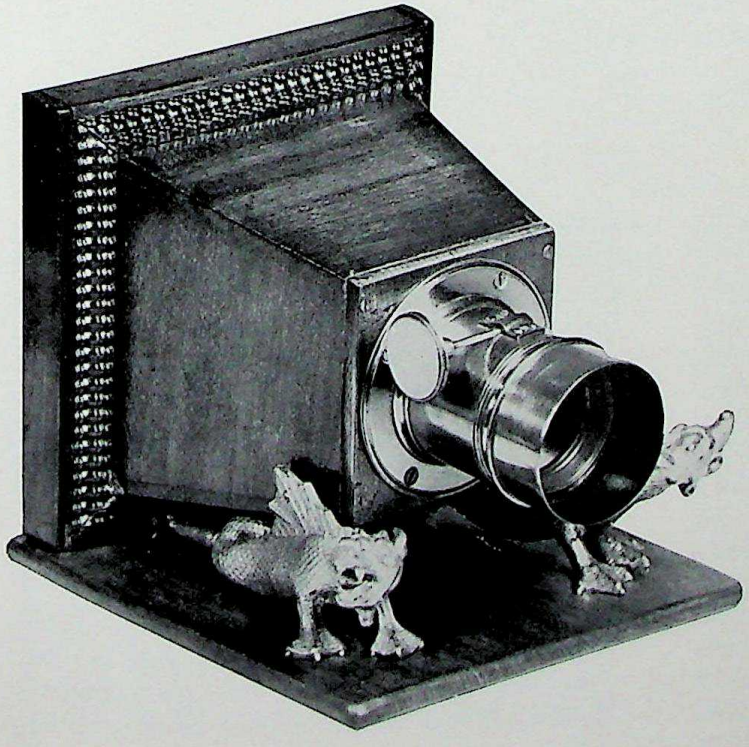
Photographers often invented cameras for specific pictures. Friedrich von Martens constructed a camera that allowed the silvered plate to be curved, permitting him to take an exceptionally beautiful two-part panorama of Paris from the Louvre in 1846.

Artists and tourists continued to pursue the will-o'-the-wisp—perfect pictorial landscape. The lucrative end of the daguerreotype business was in the thousands of camera outfits and millions of silvered plates sold throughout Europe. Two thousand cameras and half a million plates were sold in Paris alone during 1847, mostly for portraiture. Daguerreotype parlors in France and England took portraits, charging $2 to $5 for plates ranging in size from 1½ by 2 to 6½ by 8½ inches, which were then set in *papier-mâché* frames or imitation gilt boxes.

Fortunes were reaped by the better-known parlors in the first years of the daguerreotype craze. Richebourg in Paris not only conducted a profitable studio but manufactured and handled apparatus for the trade.

Antoine Claudet, a fancy glass dealer in London, bought from Daguerre for $1,000 the first license to practice in England. He learned the process from Daguerre himself, whom he visited soon after Daguerre publicly demonstrated his invention. By the following year Claudet was selling daguerreotypes of famous views, daguerreotype apparatus, and lenses supplied him by his friend Lerebours.

Early in 1841 an ex-coal merchant named Richard Beard opened the first portrait studio in London, purchasing the right to use the mirror camera invented by Alexander Wolcott in New York the previous year. This enabled him to take pictures with exposures of 5 seconds to 5 minutes, depending on the size of the plates and the amount of sunlight. Beard also paid Daguerre for permis-



A camera in the shape of a truncated pyramid made in Paris by Bourguin, about 1844, with Petzval-type lens set in a focusing mount. The bronze dragons serve only to make it heavier and more ornate. Quarter plates used: 3¼ x 4¼ inches. Courtesy George Eastman House, Rochester.

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sion to take daguerreotype portraits even though he did not use the official camera.

When Claudet discovered a faster combination of chemicals that enabled him to take daguerreotypes with the Giroux camera in 2 seconds to 2 minutes, he also opened a professional studio for portraiture in London.

Both studios were busy all day while the light lasted. Everyone in London wanted to have his picture taken and gladly paid for the privilege. Beard realized that a fortune was to be made if a monopoly of the process could be secured; quite inexplicably, he was able to purchase from Daguerre full patent rights for all England for less than $5,000. The following year, through the sale of license fees alone, he realized more than thirty times his investment.

Beard secured an injunction to restrict Claudet from taking daguerreotypes, but the courts found in favor of Claudet, who was not compelled to relinquish his license. Claudet was devoted to developing the artistry and the technique of photography. He invented the darkroom red light, which did not affect the sensitive plate; and he conceived the idea of using painted backdrops in the studio to provide a pleasing change from the monotony of plain backgrounds behind the subject. Claudet photographed both inventors of photography—Daguerre and Fox Talbot—royalty, and other celebrities, and in 1853 he was appointed "Photographer in Ordinary to Queen Victoria."

Meanwhile, Richard Beard, who seemed to enjoy lawsuits, sued once too often for infringement of patent rights, in an action which took five years to result in a decision; although he won this case, he was soon after

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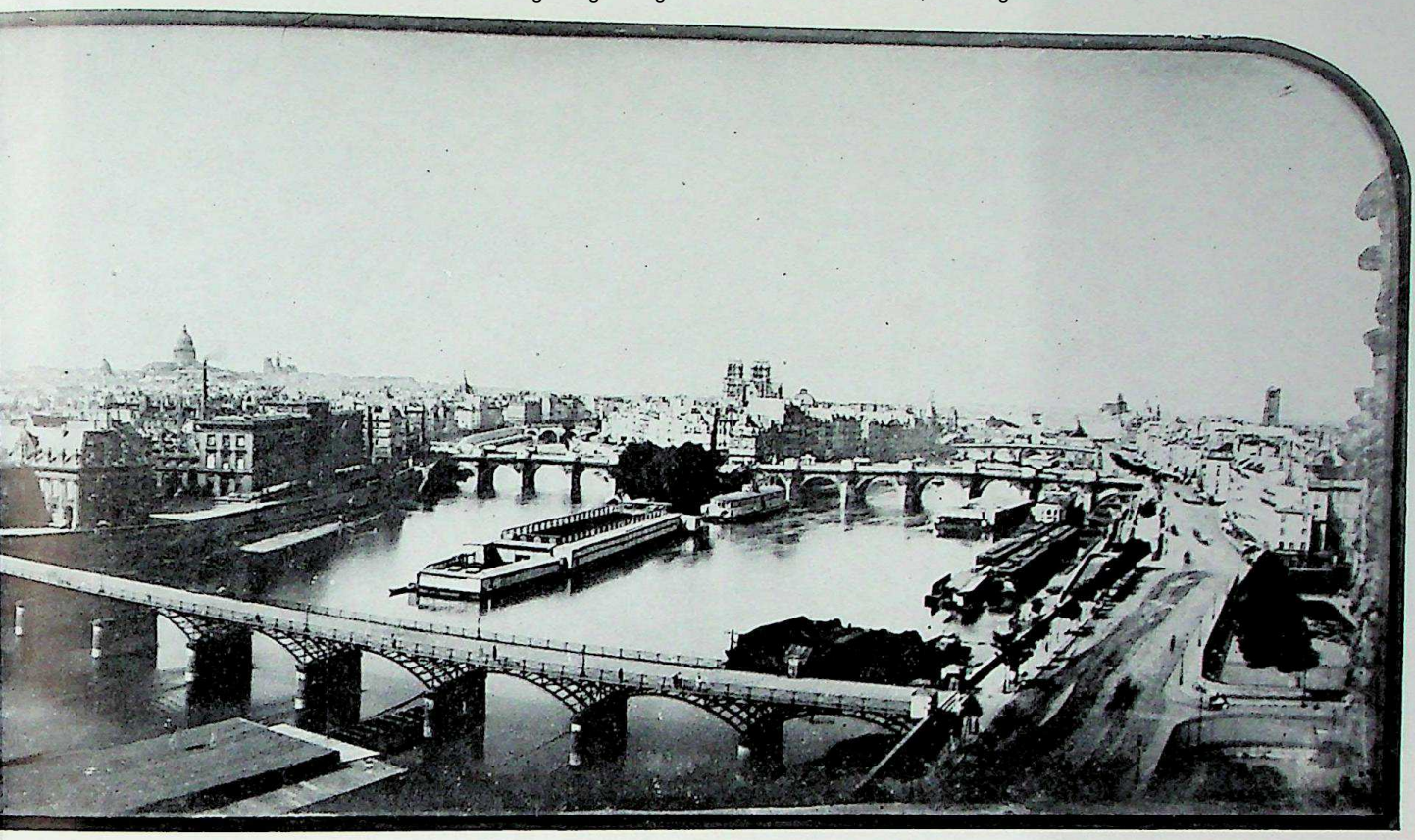

FRIEDRICH VON MARTENS, Panorama of Paris. *Daguerreotype, 1846. View from the Louvre. Taken with a camera that curved the plates, invented by Von Martens. Courtesy George Eastman House.*

declared bankrupt. During the years he held the patent for England, Beard had licensed many daguerreotypists, several of whom became famous, particularly the American, John E. Mayall, who had conducted a studio in his home town of Philadelphia before he came to London, as "Professor Highschool," and who had created ten daguerreotypes to illustrate the Lord's Prayer. Mayall made other allegorical pictures which brought him acclaim, but it was the high polish of the American daguerreotypes and dramatic, oversize plates that were singled out for praise. He took pictures of the Prince Consort, who was avidly interested in photography; and soon Mayall had in London two very fashionable studios which made him independently wealthy.

The art dealer Louis Sachse brought to Berlin, in 1839, the first camera made by Giroux, Daguerre's brother-in-law. Within less than two years Voigtländer had introduced an all-metal, conical-shaped camera with the Petzval lens that enabled him to take circular pictures about 3 inches in diameter. With the Voigtländer-Petzval lens began Germany's high reputation for high-quality optical goods and camera equipment.

Some of the finest early daguerreotype portraits were made by two artists-turned-photographer, Carl F. Stelzner and Herman Biow of Hamburg. Stelzner's training as a painter of miniature portraits is evident in his delicately delineated daguerreotypes, which he often colored by hand to simulate sensitively drawn miniatures on ivory. Both men made daguerreotypes of a terrible three-day fire that demolished an entire section of Hamburg in 1842. A Stelzner daguerreotype of the holocaust—the world's first news photograph—fortunately survives.

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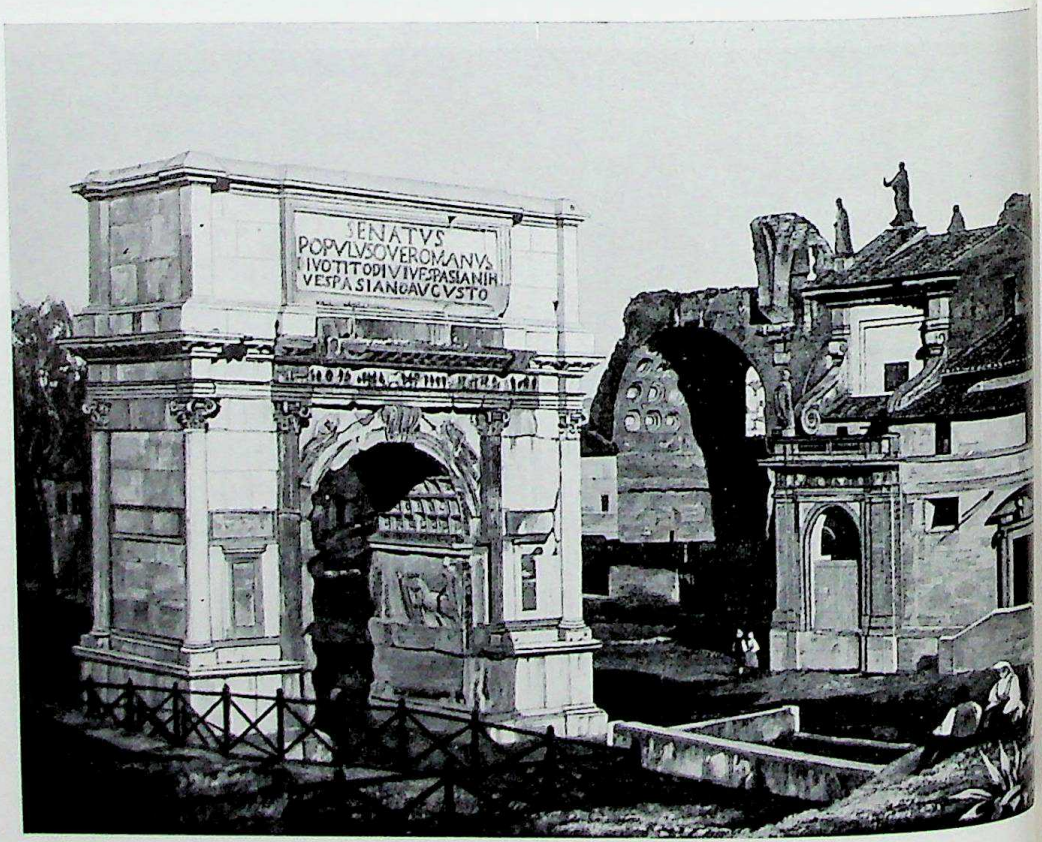
Four aquatints by unknown photographers, published in 1840-42 by Lerebours in Excursions Daguerriennes. *Courtesy George Eastman House.*
above: Nazareth
below: Arch of Titus in Rome
upper right: Luxor, Egypt
lower right: Great Mosque in Algiers



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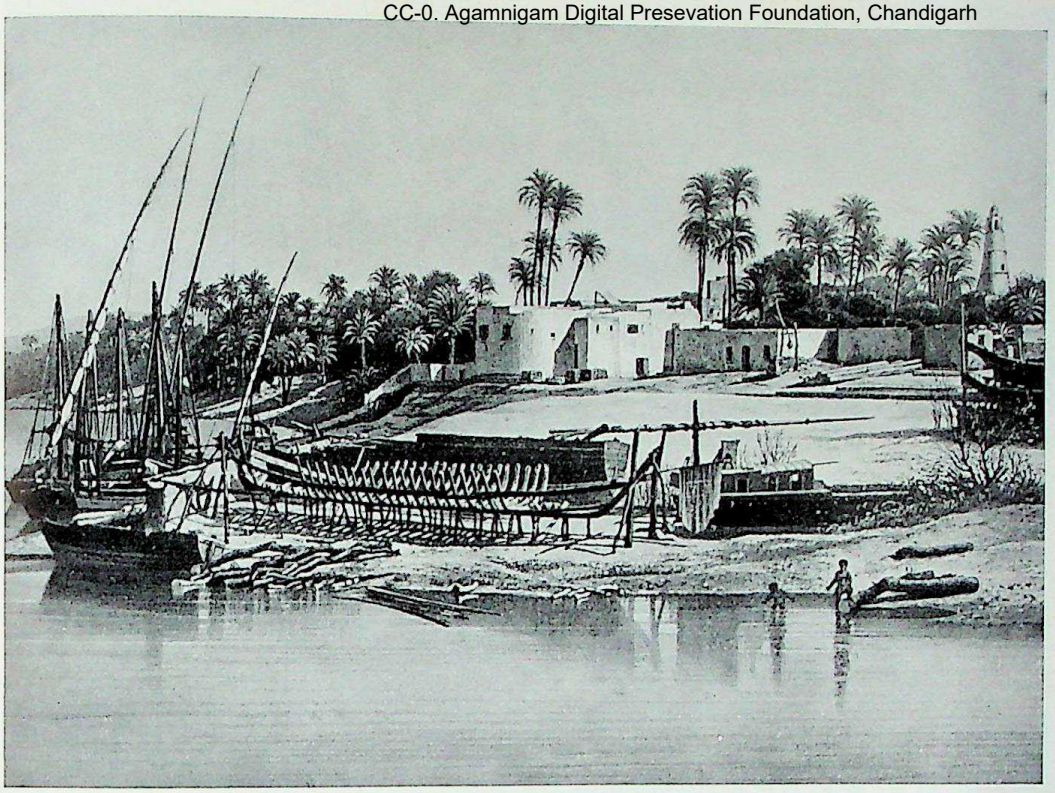

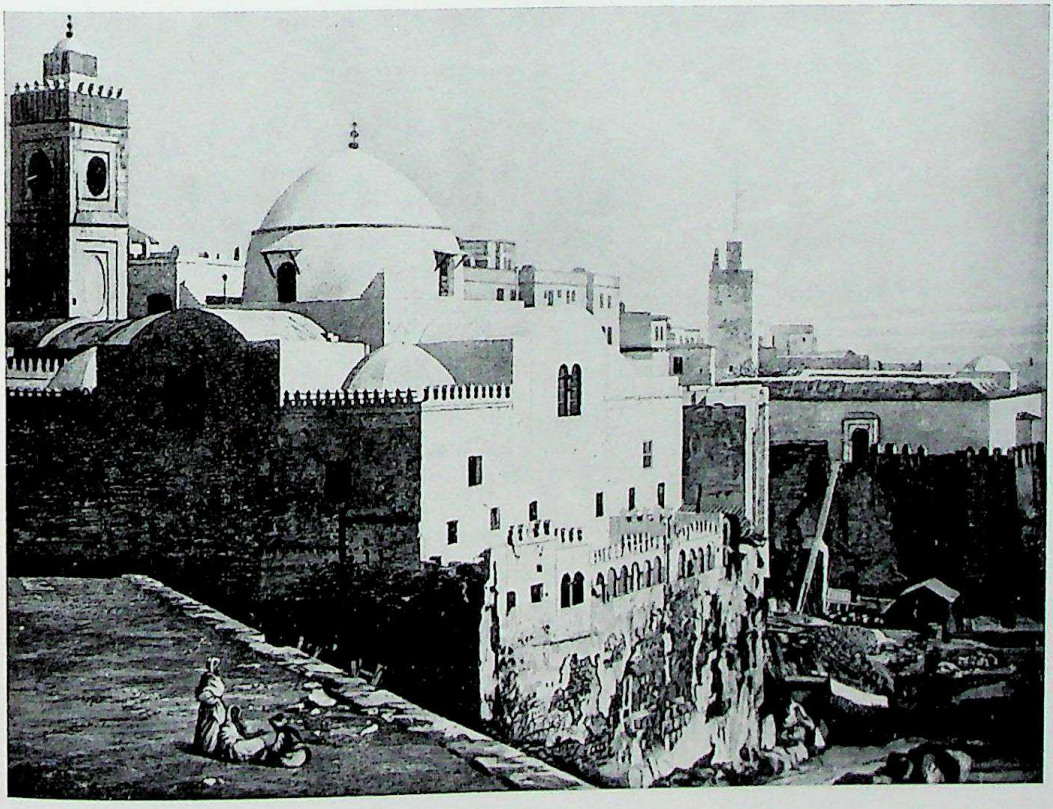

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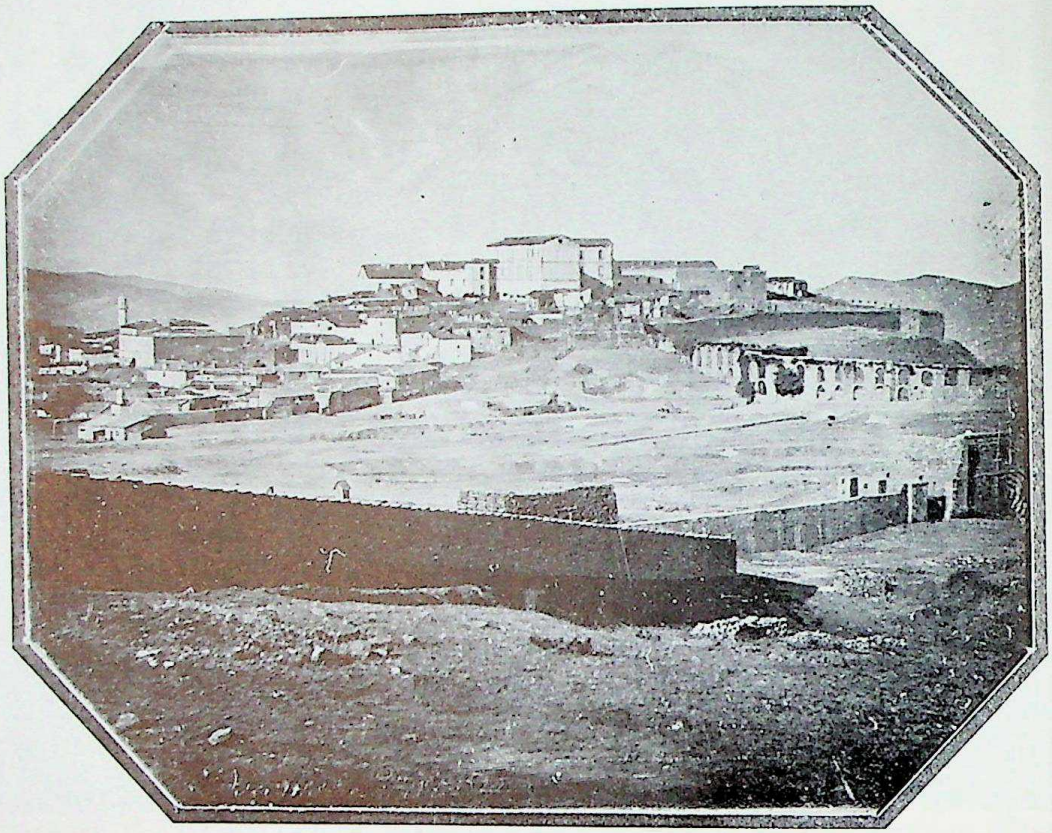
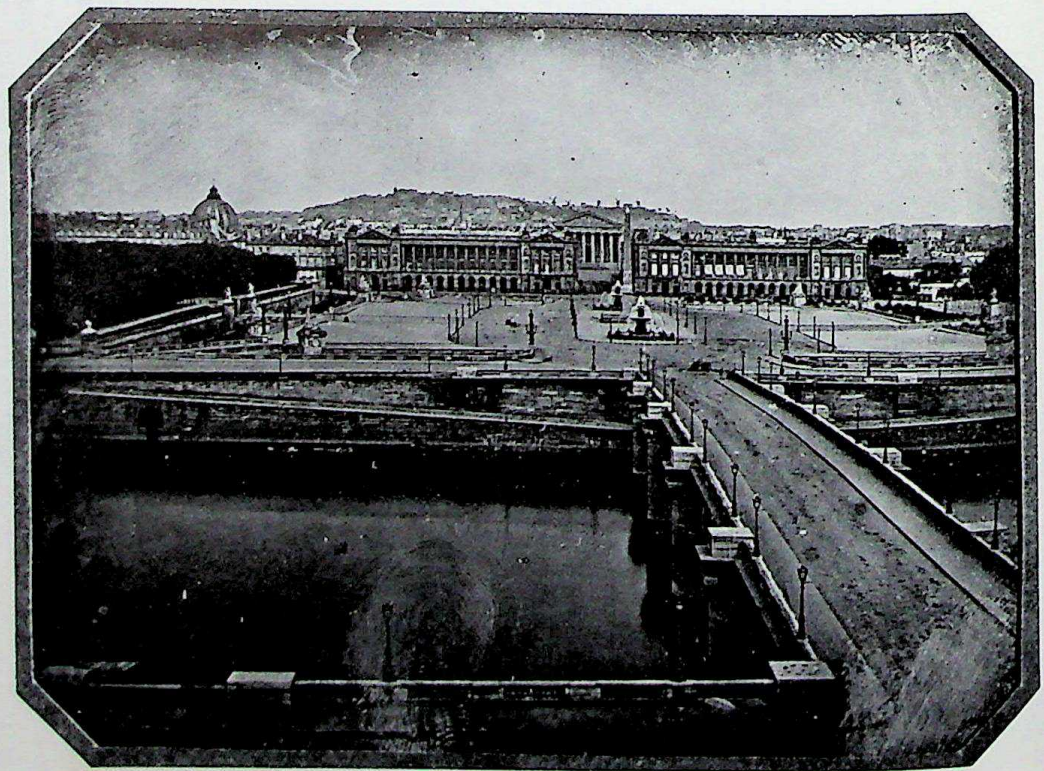


Medea, Algeria. *Daguerreotype, out 1850. The names Delemotte et Alary are scratched on plate in lower left corner. Courtesy George Eastman House.*



View of the Place de la Concorde, Paris. *Daguerreotype, about 1850. Daguerreotypist unknown. In the distance, Montmartre and its windmills. The image is reversed. Courtesy George Eastman House.*

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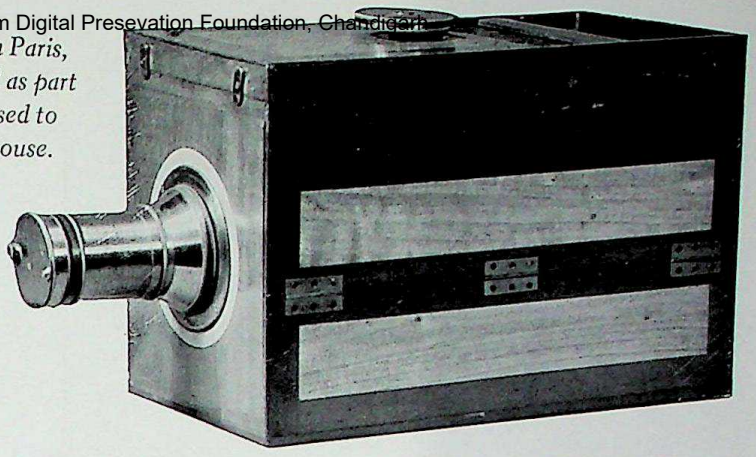
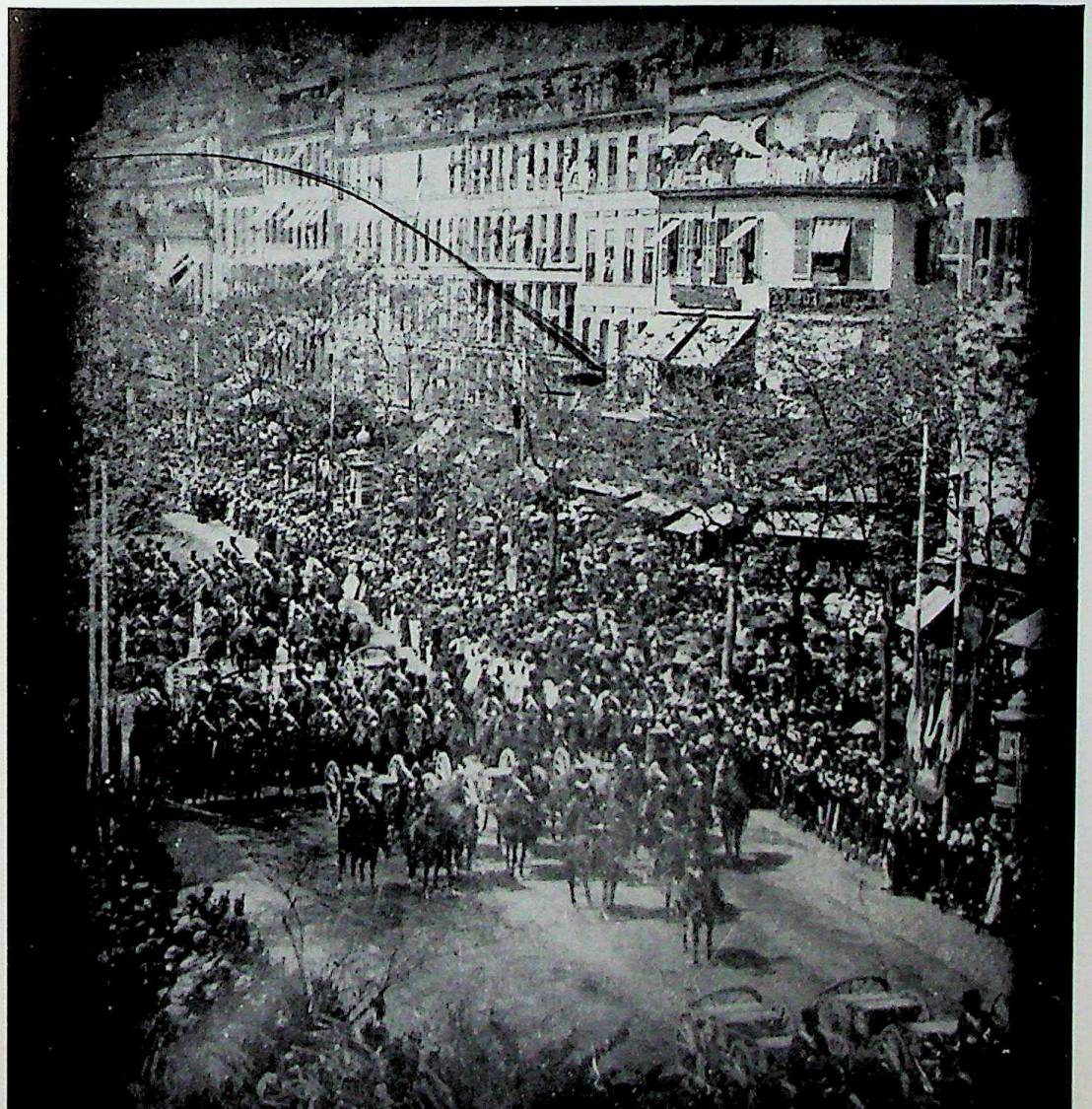


A collapsible camera made by Charles Chevalier in Paris, 1840, for whole plate, 6½ x 8½ inches. Furnished as part of a complete daguerreotype outfit; could also be used to take paper negatives. Courtesy George Eastman House.

Return of French Troops from Italy. *Daguerreotype, about 1858. Daguerreotypist unknown. An extremely rare example, with crowds of people, taken when process had been practically supplanted by collodion negative. Courtesy George Eastman House.*



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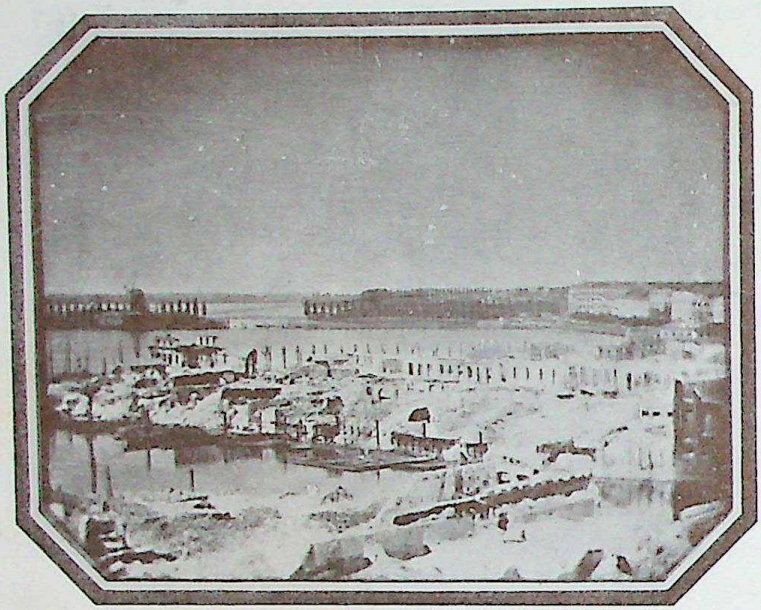

C. F. STELZNER, Hamburg Fire. *Daguerreotype, 1842. The world's first news photograph. Courtesy Museum für Hamburgische Geschichte, Hamburg.*

STELZNER, Oberleutnant H. N. Beseler. *Daguerreotype. Hamburg, 1843. Courtesy Staatliche Landesbildstelle, Hamburg.*

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STELZNER, Outing of the Hamburg Art Club.
Daguerreotype, 1843.
Courtesy Staatliche Landesbildstelle.

STELZNER, Caroline Stelzner. *Hamburg, 1843.*
Courtesy Staatliche Landesbildstelle.

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Je peux vous croquer avec mon Daguerréotype, vous, votre famille et le petit zozor!

A clinching argument of the daguerreotypist was that he would "draw" the entire family for the same price as one member. In this lithograph by an unknown artist, about 1850, the caption shows the daguerreotypist saying, "I can sketch you with my daguerreotype, you, your family, and the little Zozor." Courtesy George Eastman House.

Oh Clarise, take a look at that big machine, it's as though a great big eye was looking at us.

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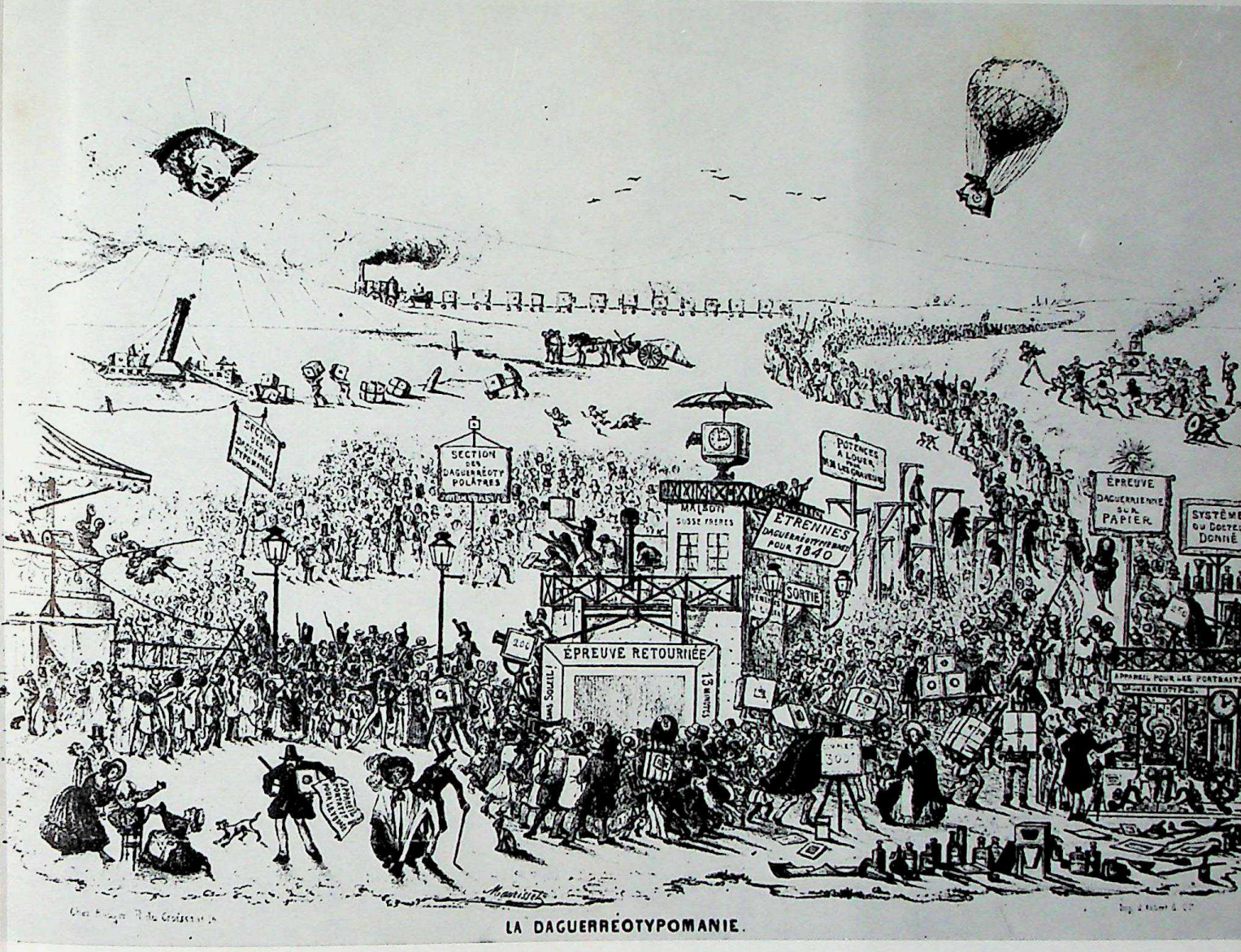

The Daguerreotype Craze. *Lithograph drawn by A. Maurisset for New Year's Day, 1840. Camera fans dance. Gallows for rent to engravers. A man struggles with an unwieldly camera marked "Apparatus for Travelers." A studio advertises portraits for New Year's presents. A man has his portrait made. Dr. Donne, who made the first engravings from daguerreotypes, is at work with his plates and presses. Moving in the distance is a freight train formed by cameras; a camera is suspended from a balloon; a ship is being loaded with camera supplies; and over all the sun shines and smiles. Courtesy George Eastman House.*

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5.

Mirror With a Memory: The Daguerreotype in America

THE FIRST PORTRAITS taken by daguerreotype took so long that the subjects got sunburned. Portraiture was a terrible ordeal, suffered by sitting perfectly still in the direct sunlight for as much as 20 minutes. It was permissible to wink; the process was so slow that it did not matter.

To enable the sitter to keep his eyes open in the sun a blue sheet of glass was interposed; this did not lengthen the exposure very much, and soon all studios were equipped with blue skylights.

Daguerreotypes were hand-colored like miniatures, often by artists of some standing. The earliest attempts to color the fragile image came after experiments with painting on the protective glass proved unsuccessful. Dusting colored powders on a gum brushed onto the image also proved too harsh for the easily damaged daguerreotype. The only solution was for trained miniature painters laboriously to tint the face of the daguerreotype with as much caution and artistry as was necessary to do a miniature on ivory.

Dr. John William Draper, in 1839 in New York, said that he had to pose his models for 20 minutes in the open sunlight, the face whitened with powder and the eyes closed, to secure full-size daguerreotypes. Draper, who was a professor of chemistry at New York University, had learned of Daguerre's process by reading the first English translation to reach New York in October of 1839, but he

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had already experimented unsuccessfully for two years with the photograph as applied to science. He made himself a cigar-box camera and with it took a picture of a Unitarian Church from a university window. A month earlier his colleague, Professor Samuel F. B. Morse, had taken a picture of the same church from his window in the university. On April 19, 1840, Samuel Bemis in Boston took a daguerreotype of King's Chapel burying ground in an exposure lasting 40 minutes. By mid-1840, with better equipment, smaller-size plates, and faster chemicals at their disposal, the professors were ready to become partners in a portrait studio, which they built on the roof of the university.

At about the same time, Alexander S. Wolcott was issued the first patent in the United States for photography. This was for a camera with a concave mirror that reflected the sun's rays to the plate rather than with a lens that refracted rays to the plate. The new invention permitted more light to fall on the plate. The image was not reversed, but neither was it so sharp as the daguerreotype made in the usual lens camera. Wolcott and his partner John Johnson opened the world's first portrait studio in New York on March 4, 1840.

Daguerreotypists could operate only on sunny days, which occurred in New York more often than in London —a contributing factor to making American daguerreotype portraits universally acclaimed as the best.

On dull, overcast days Morse taught the process to a number of interested students, many of whom were to become leading daguerreotypists in the United States, among them Edward Anthony, Mathew B. Brady, and Albert S. Southworth. Using a regular daguerreotype camera, they were able to take studio portraits in sittings of 30 seconds to 2 minutes, and could cut this time in half by posing the subject directly in the sun.

After only six months Professor Draper dissolved the partnership; he was to utilize photography for scientific purposes the rest of his life. Professor Morse moved to another roof-top studio in the *Observer* building.

Morse's purpose in pursuing the perfection of the daguerreotype was to accumulate portraits of models he could use in painting. He was the first to take a class picture, at the thirtieth reunion, in August, 1840, of his Yale University class. Morse needed to realize some profit from his daguerreotype researches, for in the depression years of 1839–1840 he was spending much more than he could afford from his small salary as professor of literature and design at New York University. This salary was supplemented by the little tuition he received from his students in the daguerreotype process and by the portrait commissions he received intermittently. All the while he was seeking government support to perfect his invention of the magnetic telegraph.

All sorts of people turned to the daguerreotype to make an extra dollar. Some learned the craft well enough to open daguerreotype galleries. Others became professors of hocus pocus, making pictures in the mystifying darkroom, passing off the faint results as the best procurable; to many daguerreotyping was a form of advertising or a sideline to attract customers to their regular business.

In addition to the charlatans there were fine workmen, practicing daguerreotypists whose studios took superb portraits of illustrious citizens and charming pictures of a bygone day in a peaceful America.

One of these was John Plumbe, who, besides being a pioneer in chain-studio photography, was the first to write and pressure Congress for a railroad connecting the Atlantic with the Pacific. Soon after he learned the process in Washington in the summer of 1840, he opened a series of Daguerrean Galleries. During the next five years, thirteen Plumbe National Daguerrean Galleries were established in such widely separated cities as Boston, New York, Washington, and Philadelphia in the east, and Louisville, St. Louis, Cincinnati, and Dubuque in the west. He developed the "Plumbeotype," and hired artists to copy daguerreotype likenesses onto lithograph stones so that the prints could be pulled and sold in editions of any number desired by the customer.

The galleries made money, but unfortunately Plumbe was too busy pushing for a national railway, and permitted his managers to plunder the proceeds. By 1847 he was declared bankrupt, the galleries were closed, and he was on his way to California. It would be a fitting climax if we could report that this intrepid man found another fortune in the gold fields, but the truth is far more sad; he returned to Iowa and died by his own hand at the early age of forty-six.

Edward Anthony, trained as a civil engineer and graduated from Columbia at the age of twenty in 1838, learned the daguerreotype process as soon as it was introduced the next year. As there was little work to be found in his professional field, he accepted a commission to take daguerreotypes of disputed territory at the Canadian-American northeast boundary. These were the first pictures taken for a government survey.

A short time after this, Anthony and a partner, J. M. Edwards, were permitted by Anthony's friend and patron, Senator Thomas Hart Benton, chairman of the Senate Committee on Military Affairs, to use the committee room in Washington to take daguerreotypes of distin-

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guished political figures. Among these was John Quincy Adams, who recorded in his diary, April 12, 1844, that he sat for three likenesses and that, as he walked out, "President Tyler and his son John came in, but I did not notice them."

Anthony took pictures of everybody of consequence, and formed a National Daguerrean Gallery which was on exhibition in New York City. This enterprise was supposedly entirely destroyed by fire in 1852 except for a single full figure portrait of John Quincy Adams.

A collection of daguerreotypes of prominent national politicians who were in Washington during the nine years Anthony and his partner had their gallery is now in the Chicago Historical Society. Though these cannot be positively identified as Anthony's, the consistent quality of the portrait, the dramatic posing of the subject, and the search to interpret the character of each person carry the mark of someone well trained, as Anthony was. Further evidence about dates and age of subjects depicted leads me to believe that these may be some of Anthony's lost daguerreotypes.

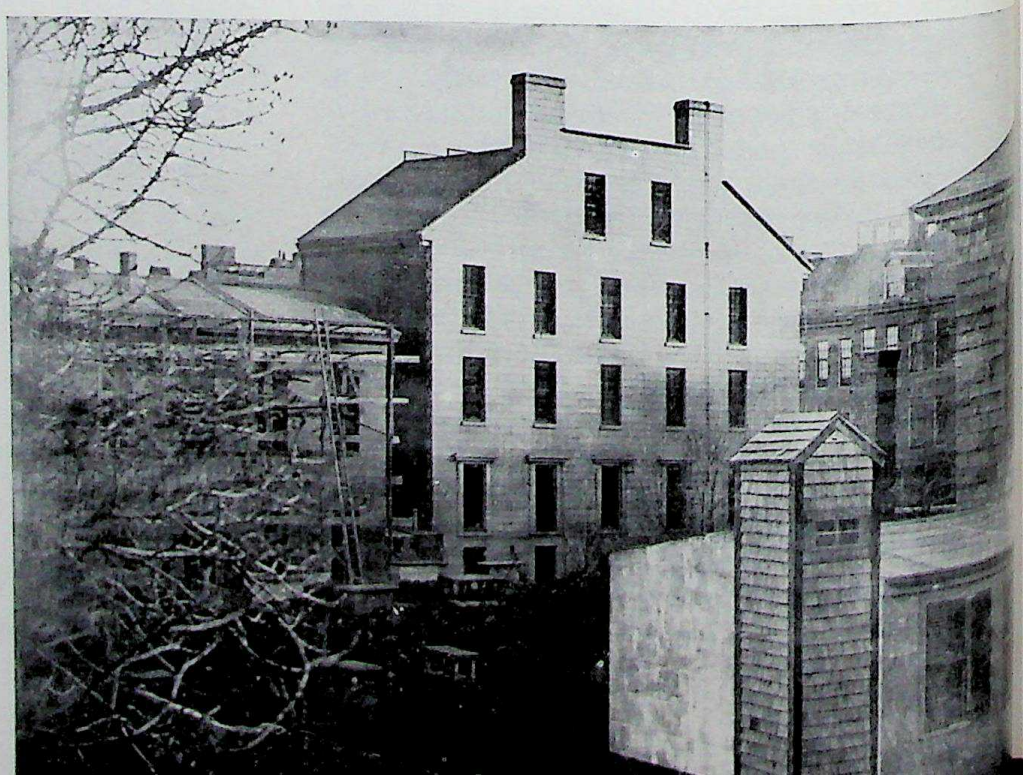
The collection includes Thomas Hart Benton, senator from Missouri; Lewis Cass, senator from Michigan and in 1848 Democratic candidate for the presidency; Presidents Martin Van Buren, John Tyler, Millard Fillmore, and Franklin Pierce; Louis Kossuth, Hungarian patriot who was in the United States 1851–1852, and the Spanish-American revolutionary Narciso Lopez who was in Washington for three years until 1851.

The most notable name in American photography is Mathew B. Brady (he always spelled it with one "t" and never told anyone what the "B" stood for). A later chapter will be devoted to this exceptional man, historian documenter of the Civil War, publisher, and altogether the greatest recorder of American life in his day.

The first decade of the daguerreotype saw a thousand practitioners in the United States. There were seventy galleries in New York City alone, among them that of Jeremiah Gurney, a jeweler turned cameraman. His famous gallery, later conducted by his son Benjamin, moved ahead with photography as it developed, and survived for more than half a century.

Oliver Wendell Holmes called the daguerreotype "the mirror with a memory." His native Boston competed with New York in refining the silver image. Yankee ingenuity made possible the excellence of American daguerreotypes. John Whipple utilized a steam engine to run the buffing wheels to give the plates the highest possible polish, to heat the mercury, to prepare the distilled water for washing the plates, to cool the clients by running fans in the waiting rooms, and also to revolve a sign on the facade of the gallery.

One of the justifiably famous galleries in Boston was the establishment of Southworth and Hawes. This gal-



SAMUEL A. BEMIS, King's Chapel, Boston. *Daguerreotype, 1840. One of the earliest American daguerreotypes. Label on back reads: "April 19, 1840 Samuel A. Bemis first daguerreotype experiment. Iodizing process 25 minutes (apparatus new) Camera process 40 minutes, Wind N. W. sky clear air dry—very cold for season. Lens meniscus. Time 4:50 to 5:30 p.m. Daguerre's apparatus. N.Y. Plate ordinary." Courtesy George Eastman House, Rochester.*

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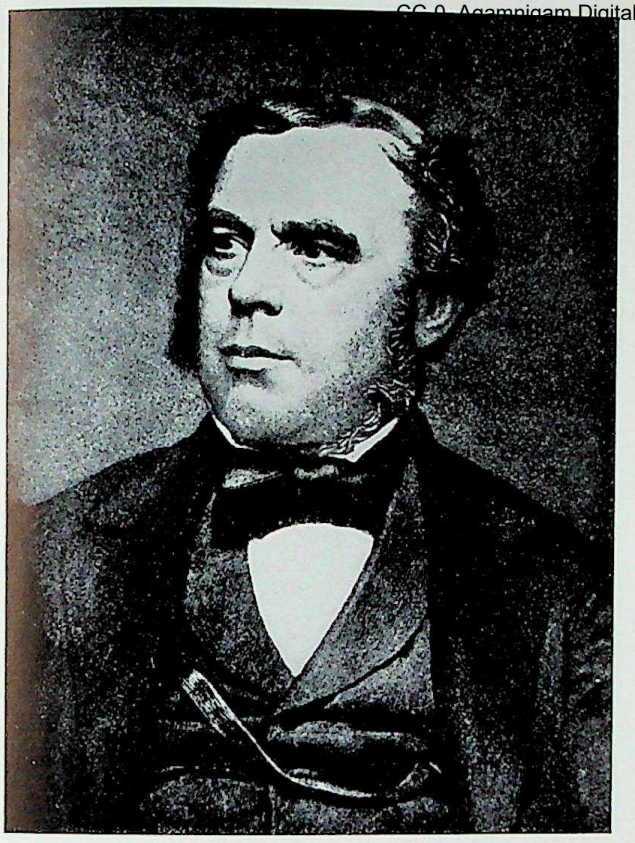
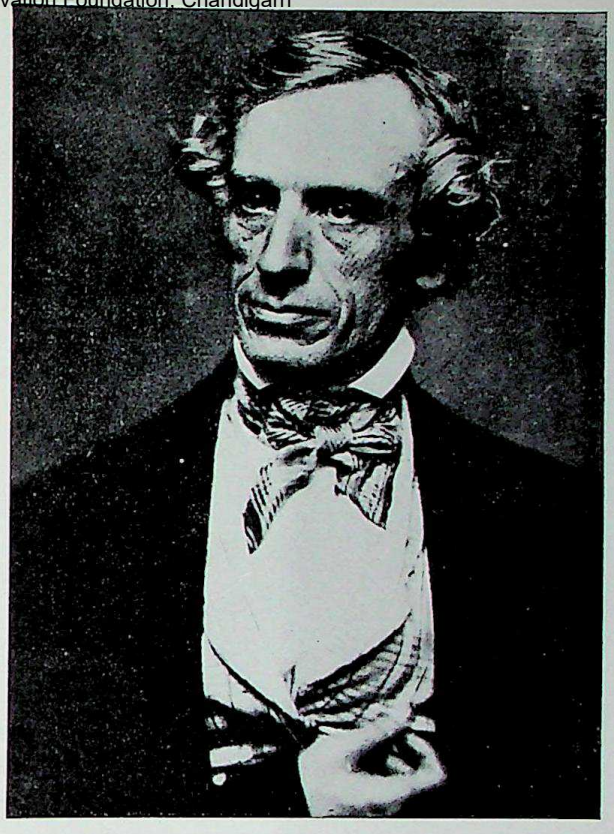


JOHN SARTAIN, Portrait of John William Draper. *After an engraving from M. A. Root,* The Camera and the Pencil, *Philadelphia, 1864. Two years before the daguerreotype was announced, Professor Draper was experimenting with photography; he made one of the first photographic portraits in 1839 and the first successful photograph of the moon the following year. Courtesy George Eastman House.*



Portrait of Samuel F. B. Morse. *Daguerreotype, about 1845. Photographer unknown. Painter, professor, inventor of the telegraph, Morse is believed to be the first American to learn the daguerreotype process. With his colleague, Professor Draper, he established a photographic studio on the roof of New York University. Courtesy George Eastman House.*

lery's portraits of celebrities are lifelike, free from the usual stiffness resulting from the rigid forked headrests and from the fixed pose often induced by filling out the subjects' hollow cheeks with wads of cotton or by fastening their jug ears to their skulls with sticking wax.

Albert S. Southworth learned the process from Professor Morse in New York, and returned to Boston to enter into partnership with Josiah Johnson Hawes, who remained a photographer until his death in 1901. The daguerreotypes made by Southworth and Hawes during the first ten years of their partnership are today celebrated and sought as some of the finest examples of the art. These portraits were most often taken on whole plates 8½ by 6½ inches, and cost $5 or more. Competitors' prices were $1 for a quarter plate, with a free case.

The fine daguerreotype was doomed. It had lasted longer in America than anywhere else. At the Great Exhibition in the London Crystal Palace of 1851, Americans received three of the five medals awarded for daguerreotypes. The French by then excelled in photography on paper.

America soon turned to the cheaper process of the glass negative, from which a dozen or more positives could be made at the price of one good daguerreotype. It was the end of an era; a beautiful and unique art had died. The daguerreotype would never be revived.

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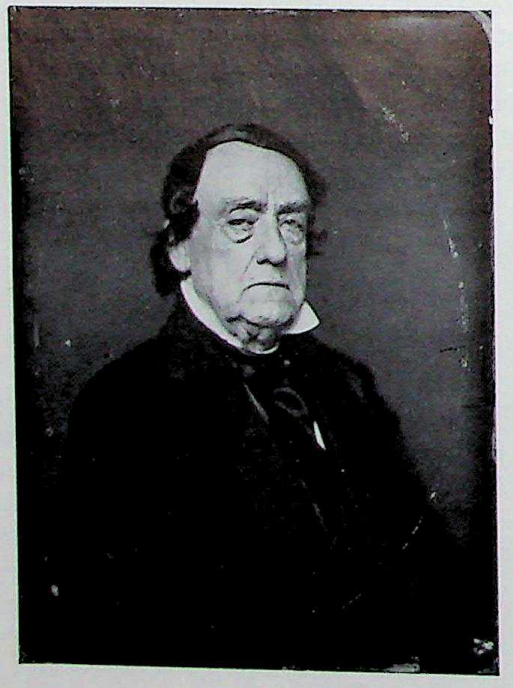
Portrait of John V. Farwell, *Chicago merchant. Daguerreotype, 1845-47. Photographer unknown. Courtesy Chicago Historical Society.*

EDWARD ANTHONY, Senator Thomas Hart Benton. *Daguerreotype, about 1848. Taken in Washington. Courtesy Chicago Historical Society.*



ANTHONY, LEWIS CASS, *senator from Michigan and in 1848 Democratic candidate for President. Courtesy Chicago Historical Society.*

Portrait of John Wentworth. *Daguerreotype, 184? Photographer unknown. Taken in Chicago before Wentworth became Mayor. Courtesy Chicago Historical Society.*

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Portrait of Thomas Sully (1783-1872). *Daguerreotype, about 1848. Photographer unknown. American portrait painter. Courtesy Chicago Historical Society.*

ANTHONY, Louis Kossuth, *Hungarian patriot. Daguerreotype, 1851, Washington. Courtesy Chicago Historical Society.*

ANTHONY, Martin Van Buren. *Daguerreotype, about 1848. Van Buren left the presidency in 1841 but remained a political power for years. This daguerreotype appears to have been taken when he was about 66 years old. Though it is not certain, the picture seems to be one of the daguerreotypes which Anthony made for his National Daguerrean Gallery, which was destroyed by fire in 1852. Courtesy Chicago Historical Society.*

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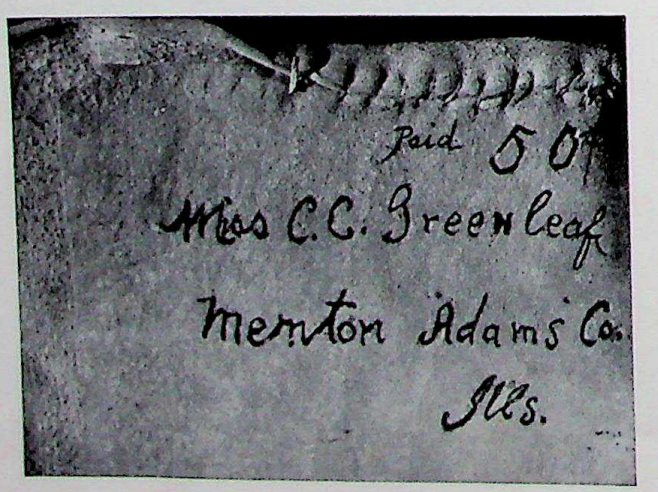
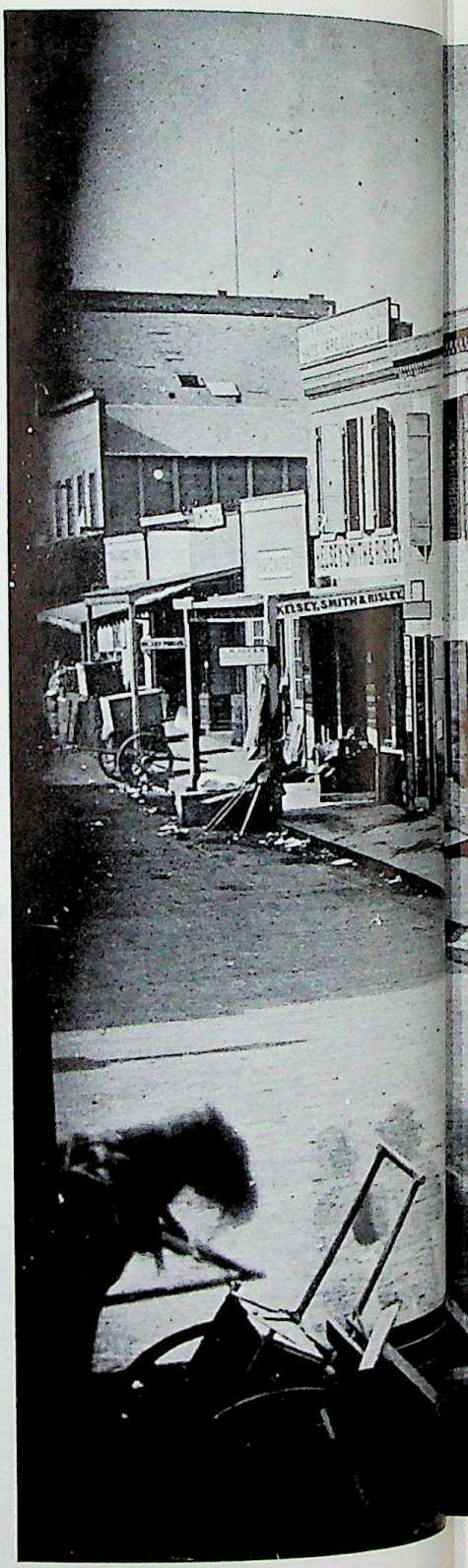
Unidentified Gold Miner in California. *Daguerreotype, about 1850. 2¾ x 3¼ inches. Daguerreotypist unknown. The leather pouch in which the miner sent the daguerreotype to a young lady in Illinois is at bottom. Courtesy George Eastman House.*





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FRED COOMBS, San Francisco, corner of Clay and Montgomery Streets. *Daguerreotype, 1850. A sharp eye can see, on the druggist's signboard "opium for sale" along with paints and varnishes. Courtesy George Eastman House.*

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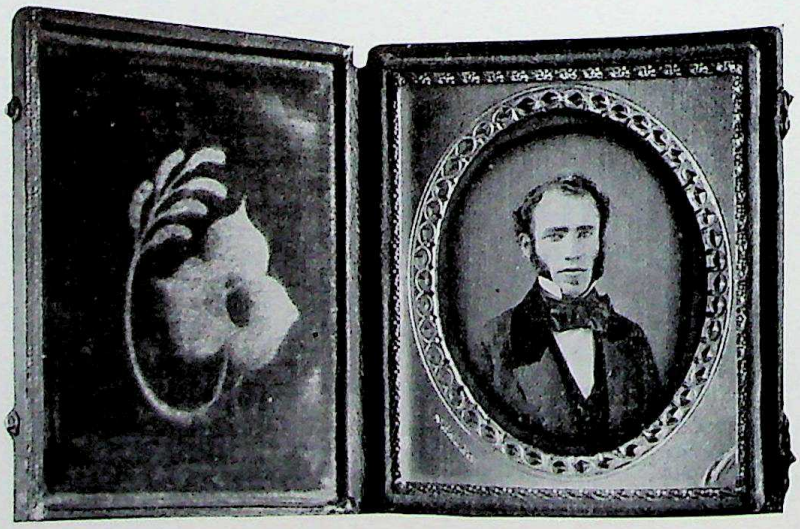
Wood engraving of Gurney's Daguerrean Saloon in New York. Typical of the ornate galleries established in the late 1840s in most of the country's principal cities. Courtesy George Eastman House.



LUTHER HOLMAN HALE, Joseph Davis. *Grandfather of Beaumont Newhall. Daguerreotype, 1850, Boston. Case is of pressed paper made to imitate leather. Courtesy George Eastman House.*

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SOUTHWORTH AND HAWES STUDIO, BOSTON, Portrait of an Unknown Lady. *Daguerreotype, about 1855. Courtesy Metropolitan Museum of Art.*

SOUTHWORTH AND HAWES STUDIO, BOSTON, Lady Surrounded by Eight Smaller Portraits of Herself. *Daguerreotype, about 1855. Courtesy Metropolitan Museum of Art, New York.*

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Little Smoke, Grandson of Shabbona.
Daguerreotype, 1856.
Taken by an Illinois photographer.
Courtesy Chicago Historical Society.

Daguerreotype, about 1850. Photographer unknown.
Illustrates early use of props in daguerreotype.
2¾ x 3¼ inches. Courtesy George Eastman House.

Man in two-wheeled cart. Daguerreotype, about 1848. Set in a pinchbeck frame and leather case. The image is reversed as in most early daguerreotypes. Courtesy George Eastman House.

S. W. HARTSHORN, Edgar Allan Poe.
Daguerreotype, 1848. Taken a year before the poet died. Poe was much enamored of the daguerreotype. In 1840 he wrote, "In truth the daguerreotyped plate is infinitely more accurate in its presentation than any painting by human hands." Courtesy Brown University, Providence.

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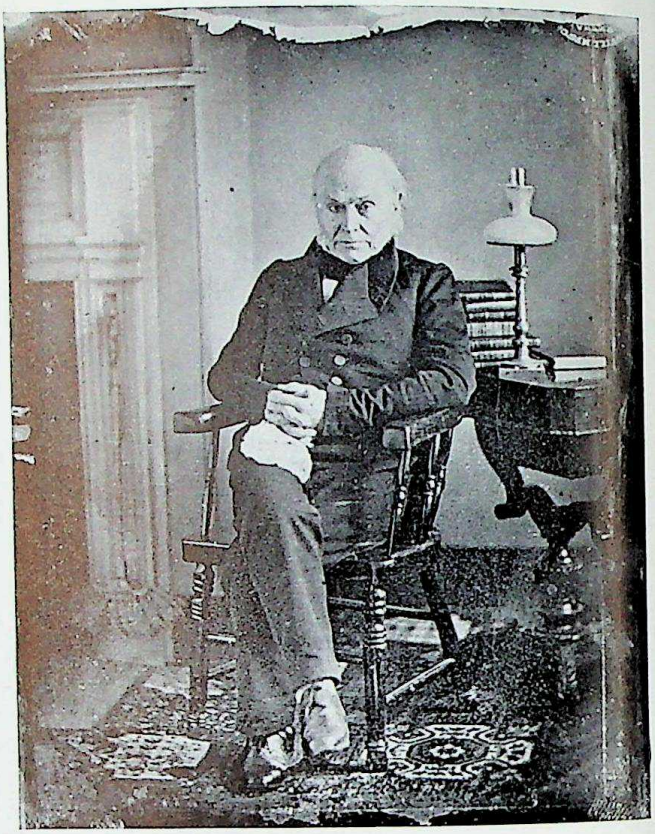
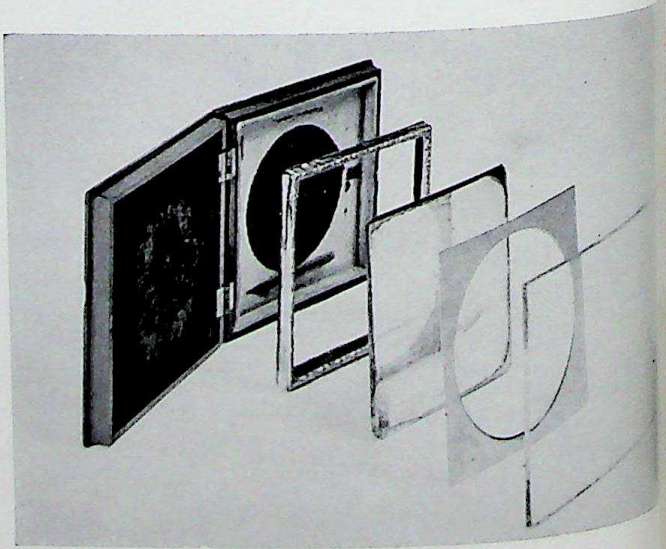


SOUTHWORTH AND HAWES STUDIO, BOSTON
above: Harriet Beecher Stowe. *Daguerreotype, about 1856.*
above, right: John Quincy Adams, President of the United States. *Daguerreotype copy, about 1852. From an original daguerreotype made in 1848, the year when President Adams died. Both, courtesy Metropolitan Museum of Art.*



Assembling a daguerreotype. The first cases were made of tooled leather, but soon cheaper substitutes became popular, among them imitation leather and plastic cases made of sawdust and shellac with elaborate pressed-in designs. The glass, the oval frame, and the daguerreotype were assembled in a flexible gilded metal frame known in England as "pinchbeck" and in America as "preserver"; then the assembly was placed in the case. Courtesy George Eastman House.

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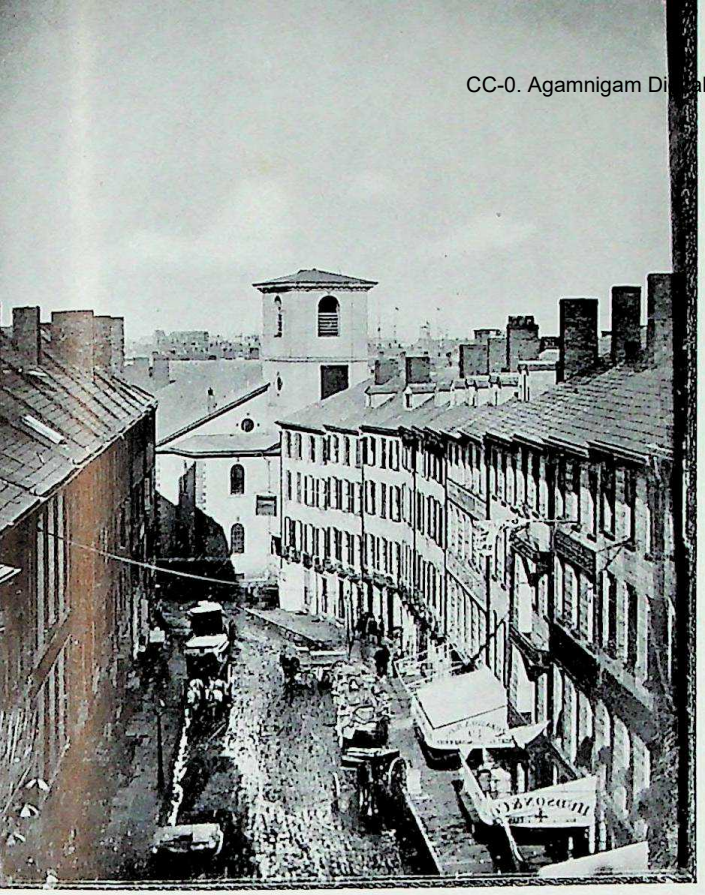
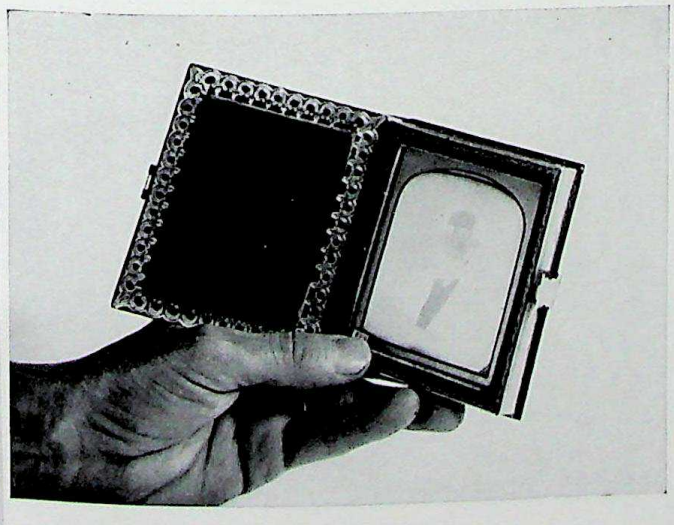
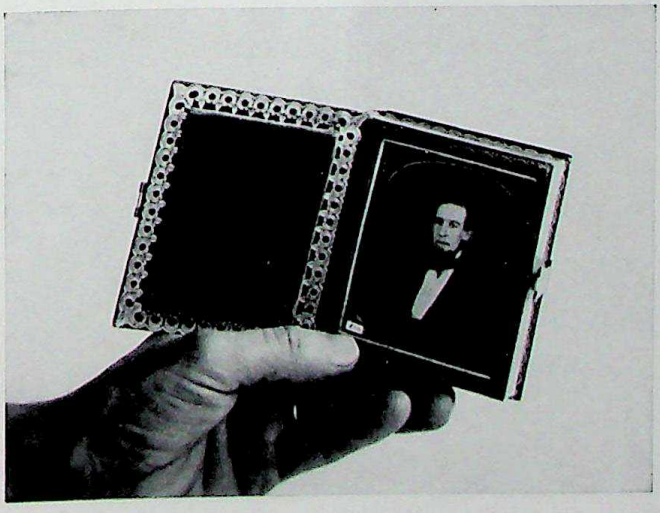


SOUTHWORTH AND HAWES STUDIO, BOSTON, Looking Down Brattle Street Toward Brattle Square Church. *Daguerreotype, 1852. The silver image is reversed, as can be seen in Hudson & Company's awning. Courtesy Metropolitan Museum of Art.*

These two illustrations show that, when sunlight fell directly on a daguerreotype the silvered image became a negative—a turn of the wrist and the image became a fully recognizable positive. Courtesy George Eastman House.





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PART TWO

Masters of the Nineteenth Century

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6. Fox Talbot—Paper Negatives and Positives

THE DAGUERREOTYPE HELD EVERYONE ENTHRALLED—painter, engraver, etcher, lithographer, scientist. Its delicate tonality and immense detail, discernible by magnifying glass, seduced everyone away from the rougher picture on paper invented by Henry Fox Talbot and announced the same month.

Sir John Herschel, who named Talbot's invention "photography" and who also coined the words "negative" and "positive" to explain the process, considered the grainy paper print child's play compared with the silver image.

The beauty of the daguerreotype was unique, its impression on silver not to be compared with a photograph on paper or a print made by any of the graphic arts. Today we recognize its fineness and appreciate its gracefulness without expecting the photograph or etching to emulate its qualities.

It was Talbot's invention of a paper negative from which multiple prints could be made that became the foundation of modern photography. The daguerreotype, uniquely beautiful as it was, had had its day a little more than a decade after it was invented.

Arago's preliminary announcement of the daguerreotype on January 7, 1839, before the Academy of Sciences in Paris, goaded Fox Talbot to publish his process first. He feared that, if Daguerre's invention was similar to

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his own, all his years of work would go for naught. Before the end of January Talbot had the noted scientist Michael Faraday present at a meeting of the Royal Institution in London several of his pictures of flowers, leaves, and lace, figures from a painted glass, and a view of Venice, all made by superimposition of object or engraving on sensitized paper. In addition, Faraday exhibited a number of Talbot's "pictures representing the architecture of my home in the country . . . made with the camera obscura in the summer of 1835."

On the last day of January, 1839, Talbot read before the Royal Society his report, "Some Account of the Art of Photogenic Drawing, or the Process by Which Natural Objects May Be Made to Delineate Themselves without the Aid of the Artist's Pencil." In it he referred to the experiments conducted by Wedgwood and Davy, devoting a paragraph to "the art of fixing the shadow," which is what they admitted they were unable to do, but Talbot did not explain how he accomplished it. Three weeks later, on February 20, Talbot sent the Royal Society a second letter, in which he listed further discoveries in "photogenic drawing" and then gave full particulars of how he fixed the image—in a solution of common salt.

In *The Pencil of Nature,* published in 1844, the first book illustrated with photographs, Talbot describes what gave him the idea of making permanent the pictures that he saw through the camera obscura. He writes that it was in October, 1833, while he was at Lake Como in Italy and was trying to copy nature with the aid of Wollaston's camera lucida. "I came to the conclusion that the instrument required a previous knowledge of drawing which unfortunately I did not possess. I then thought of trying again a method which I had tried many years before. The method was to take a camera obscura and to throw the image of the objects on a piece of paper in its focus—fairy pictures, creations of a moment, and destined as rapidly to fade away. It was during these thoughts that the idea occurred to me, how charming it would be if it were possible to cause these natural images to imprint themselves durably, and remain fixed upon the paper!"

Talbot reasoned that, since light could effect changes in materials, all he had to do was to find the proper materials. Paper was the answer for him. He found that he could submerge a sheet of paper in a weak solution of salt and then, when it was dry, dip it in a solution of silver nitrate, thereby forming in the fibers of the paper the light-sensitive chemical, silver chloride. He first made copies of engravings, flowers, and lace, but, by the summer of 1835, he had experimented with both large and small cameras.

The small cameras his wife called "mousetraps." Talbot placed a number of them around his home, Lacock Abbey, near Chippenham, Wiltshire, and succeeded in securing in each, after only a 30-minute exposure, a perfect "miniature picture of the objects before which it had been placed." He fixed this inch-square image by washing the paper in a strong solution of common salt or with potassium iodide.

After Talbot's invention was announced, Sir John Herschel suggested to him that the unused silver chloride could be more effectively removed, so that the image would not change in sunlight, by using hyposulphite of soda, which Sir John had found twenty years before, in 1819, to be the best solvent of silver salts.

Talbot discovered, in 1840—as had Daguerre two years earlier—that he did not have to wait for the image to become visible. Development of the latent image enabled him to take a picture in minutes where it had formerly taken him hours. No longer was it necessary for him to peep through a hole cut in the camera to ascertain when the image was visible. Magically, the image appeared when the paper was developed in gallic acid. After development, Talbot used a hot solution of hypo to fix the image, washed the negative in pure water, dried it, and then made it transparent by waxing the paper. He contact-printed these negatives by sunlight on silver chloride paper, the simple paper that he had used from the beginning of his experiments.

These brilliantly improved negatives he called "calotypes," from the Greek meaning "beautiful pictures," but he later called them "Talbotypes."

Quite unexpectedly, in 1841, the wealthy Fox Talbot patented the process, limiting the number of photographers to those who would pay his license fee. The daguerreotype had been patented in England; international recognition and a substantial pension had been given Daguerre in France. Talbot had received little recognition in England for his paper process, which he had not patented when he had published it two years before and was deprecated as inferior to Daguerre's process.

Pique and the desire to reap some financial benefits—he had spent $35,000—seem to have moved him to patent his process. This was the first of many patents Talbot was to secure, exacting royalties from all and vigilantly prosecuting those who dared infringe.

Many patents he secured were for inventions that were already in existence, such as the method of development by means of gallic acid, which had been employed by the Reverend Joseph Bancroft Reade in 1837 but never published or patented.

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In his patent of June 1, 1843, Talbot included hyposulphite of soda as a fixing agent; this had been suggested to him four years earlier by its discoverer Sir John Herschel. He also included an enlarging process in this patent, the same procedure for which Alexander Wolcott had been given a patent a few months before.

There was no scientific board in England at that time to check on originality or to appraise the merit of a patent. In 1843 Talbot also patented books illustrated with photographs, for he was contemplating publication of his *Pencil of Nature*. This six-part book contains, as well as an explanatory text by the author, the history of his invention and 24 actual photographs of architecture, still lifes, sculpture, and scenes around Talbot's house. During 1845 Talbot published his second illustrated book, containing 23 photographs, entitled *Sun Pictures in Scotland*.

Talbot was rebuked and criticized by indignant writers who demanded that he relax his monopoly on discoveries that others had given freely to the world. This did not deter him. He continued to prosecute and would not abandon any of his patent rights. The president of the Royal Academy and the president of the Photographic Society appealed to him to relinquish his stifling controls. At long last, in the summer of 1852, he freed the process for artists, scientists, and amateurs, but retained the right to license photographers taking portraits for profit. Fortunes had been made in this field: Richard Beard in London had realized $200,000 in one year, and huge sums had been made by Claudet, Mayall, Collen, and others, and by many photographers in Europe and America.

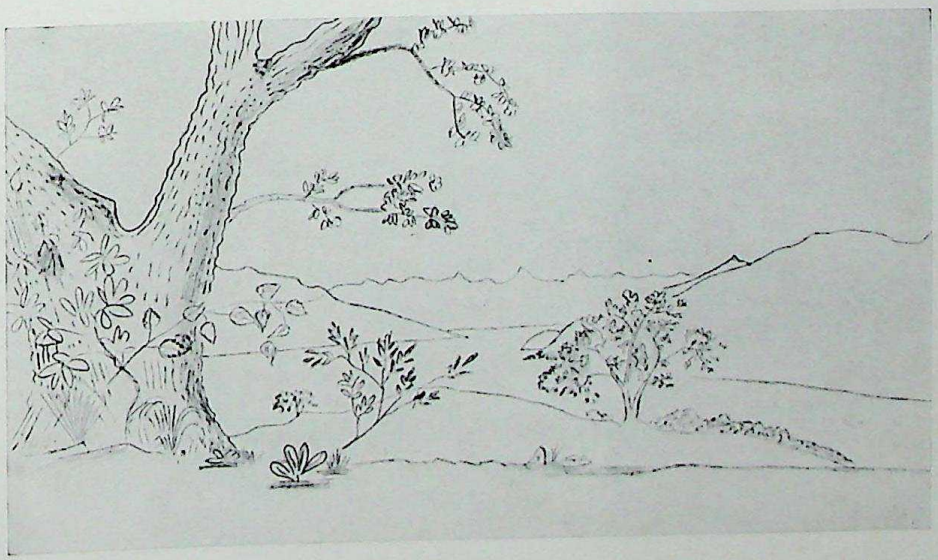
Portraiture by Talbotype and daguerreotype was already doomed. The collodion process on glass had been invented in 1851 by Scott Archer, who had given it freely to the world. Talbot claimed that the new process was a variation of his patent and basically the same—the negative-positive principle applied to glass instead of paper.

The celebrated case that broke Fox Talbot's monopoly was brought to court in 1854. A professional portraitist named Silvester LaRoche refused to pay license fees Talbot sued. The jury heard arguments regarding photochemistry which gave the perplexed judge a hard time as he summed up the case for their benefit: "Is pyrogallic acid, though it may differ in shape, in its actions with reagents, in its composition, is it or is it not a chemical equivalent with gallonitrate of silver? If it is, the defendant is guilty; if it is not, he is not guilty."

The jury found LaRoche not guilty. They also found Talbot to be the first and true inventor of the Talbotype; this they explained as meaning the first to publish or disclose the process to the public.

Talbot's hold could have been broken earlier. Sir John

ANTOINE CLAUDET, Portrait of Fox Talbot. *Daguerreotype 1844. Courtesy George Eastman House, Rochester.*



Sketch by Fox Talbot made with Wollaston's camera lucida, October 6, 1833. Courtesy Royal Photographic Society, London.

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Herschel in 1839 made photographs on glass and had published his findings. Talbot's patents applied only to paper.

Sir John Herschel was one of the greatest inventors of photographic processes. A most important invention of his that is still in use is the cheapest, simplest permanent process for copying drawings or maps, the common blueprint.

Talbot did strange things. He patented the Talbotype in the United States six years after he patented the process in England. He sold the patent rights to the professional daguerreotypists, William and Frederick Langenheim of Philadelphia, for $6,000. The Langenheims never sold a single license in the States, where the daguerreotype remained unpatented, was faster and preferable, and where the little demand created for multiple prints could be satisfied by lithographing copies of photographs or by rephotographing the subject or the daguerreotype.

It is nevertheless to Fox Talbot that the entire world is indebted for the invention of the negative-positive process, from which all modern photography stems.

FOX TALBOT, Wilton House. *Calotype, about 1844.*
Courtesy Metropolitan Museum of Art, New York.

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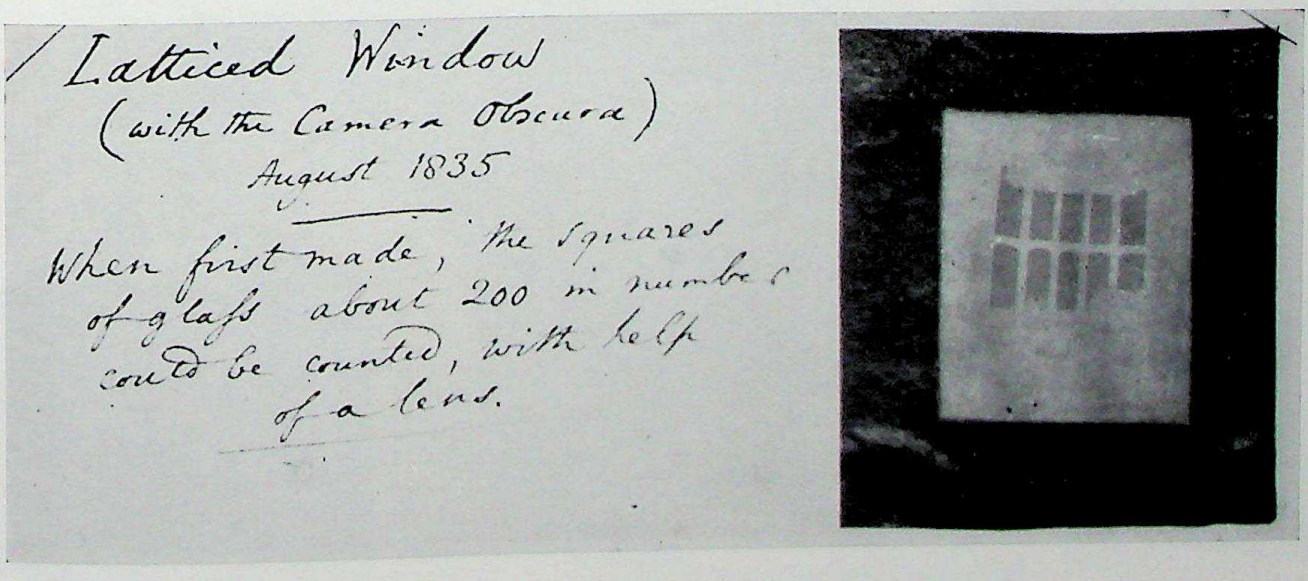
FOX TALBOT, Lace. *"Photogenic drawing," 1843. Courtesy Gernsheim Collection, London.*

FOX TALBOT, *first paper negative, one inch square. Lacock Abbey, August, 1835. Courtesy Science Museum, London.*



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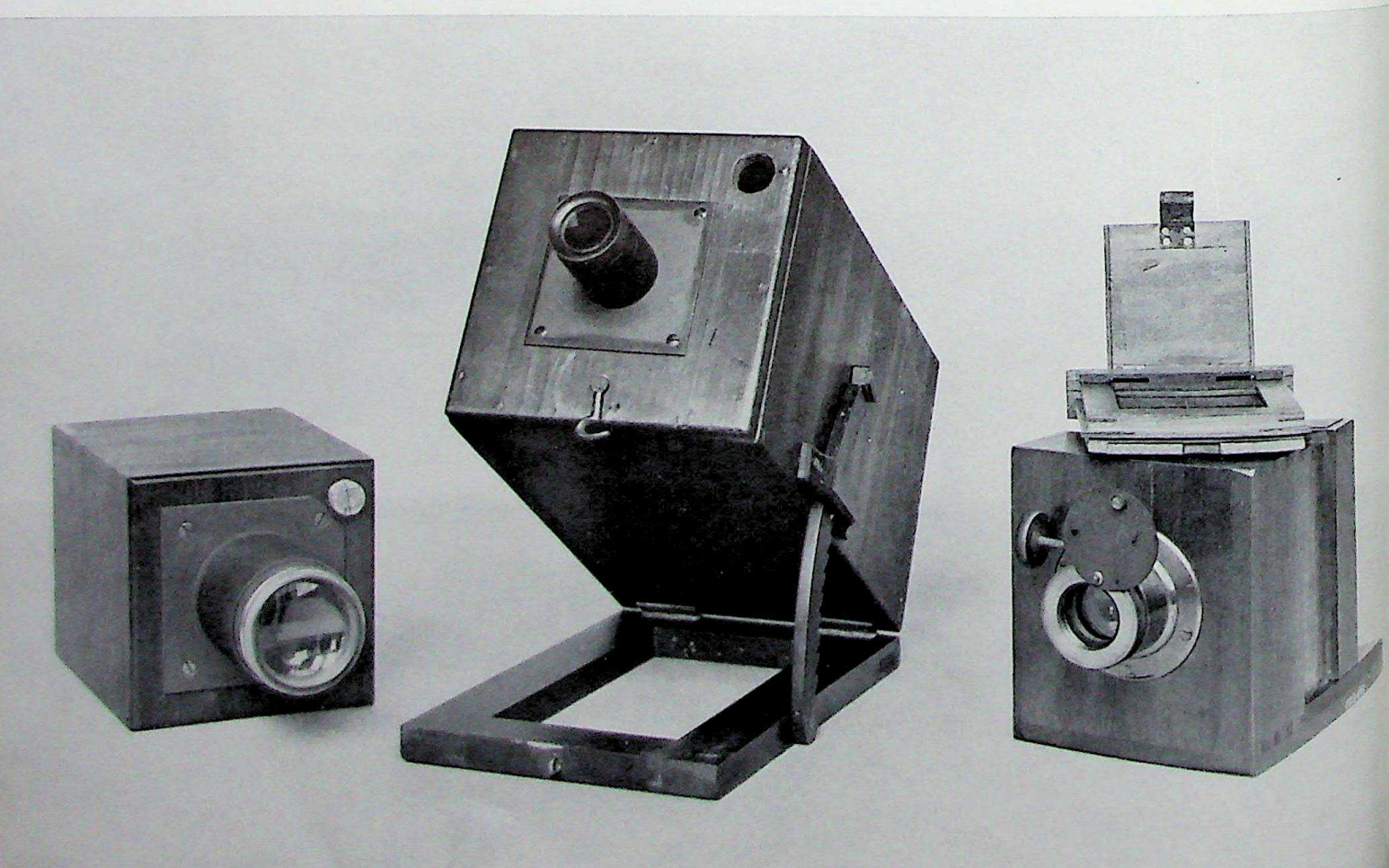
FOX TALBOT, Breakfast Table. *Photograph, 1840. Technique, using paper negative, called "photogenic drawing" by inventor.*



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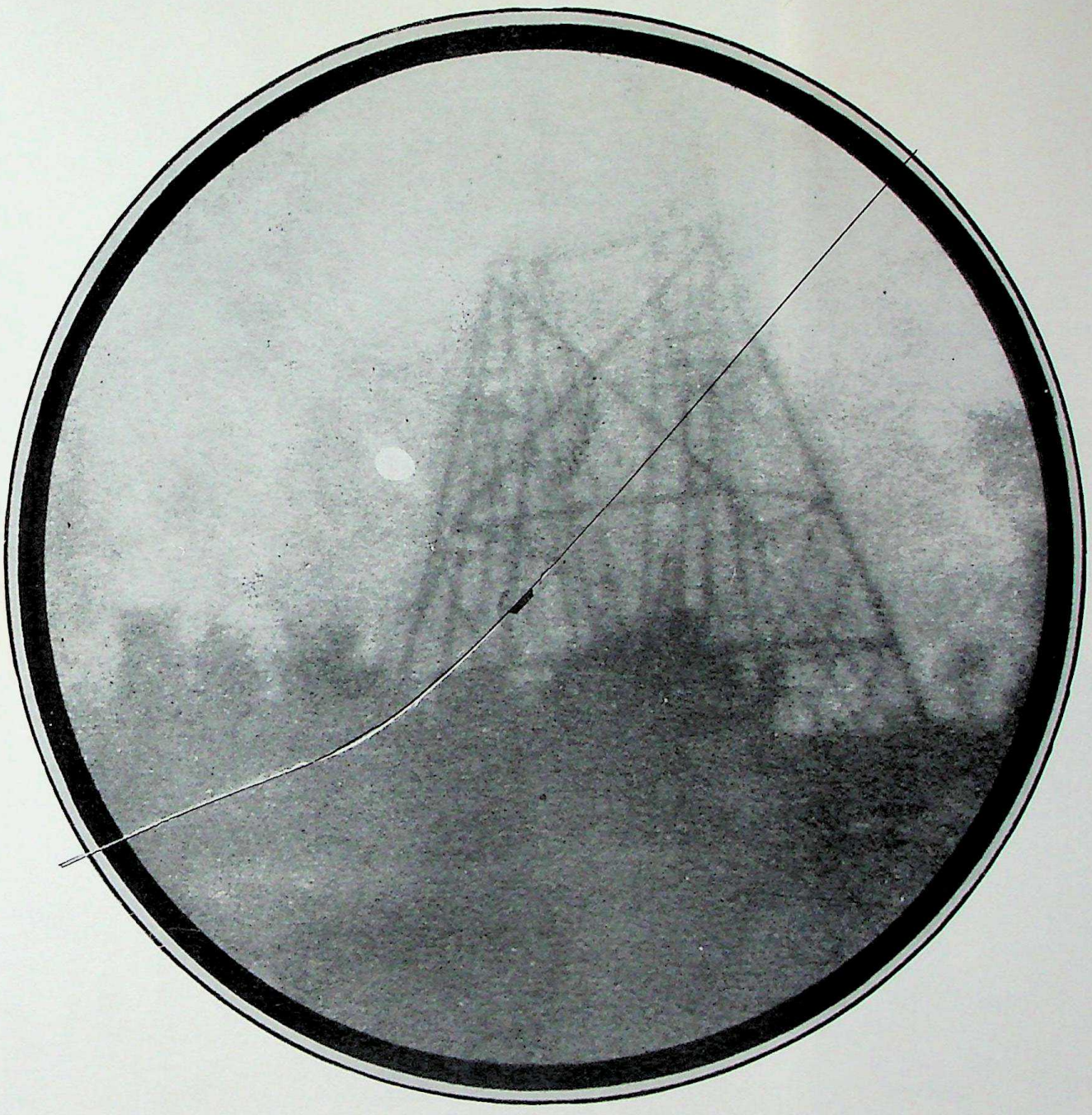

Sir John F. W. Herschel's photograph on glass, of his father's observatory, 1839. Courtesy Science Museum, London, for all three pictures.

Fox Talbot's two earliest cameras with peep holes, and a third designed for the later calotype process. Before development of the "latent image," peep holes permitted photographers to see when image was fully exposed on negatives.

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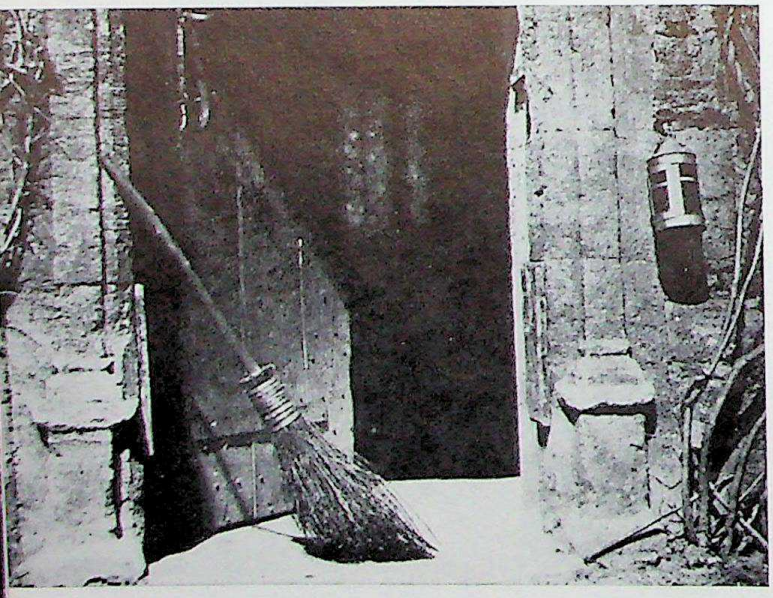
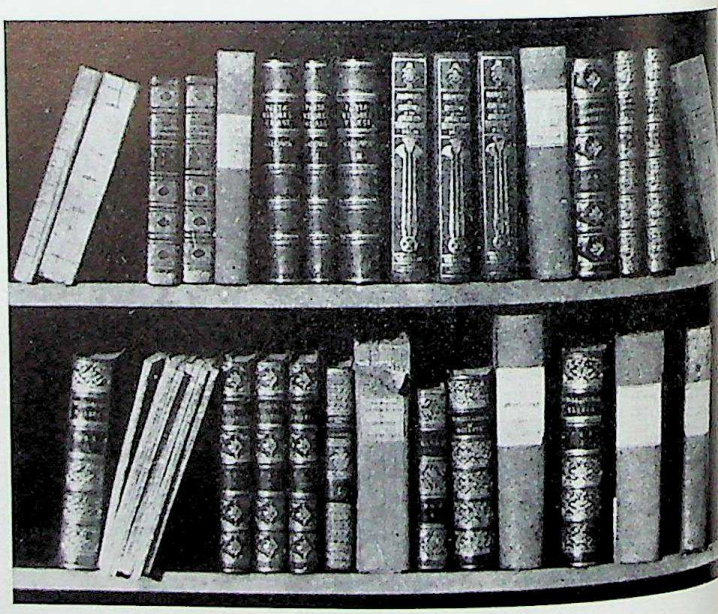
Fox Talbot's Pencil of Nature, *first book published with original photographs. Issued in six parts between 1844 and 1846, with pictures pasted in by hand. Courtesy George Eastman House.*





FOX TALBOT, The Broom *(left) and* Books *(above). From* Pencil of Nature. *Calotype, 1844-46. Courtesy The Harold White Collection, Bromley, Kent, England.*

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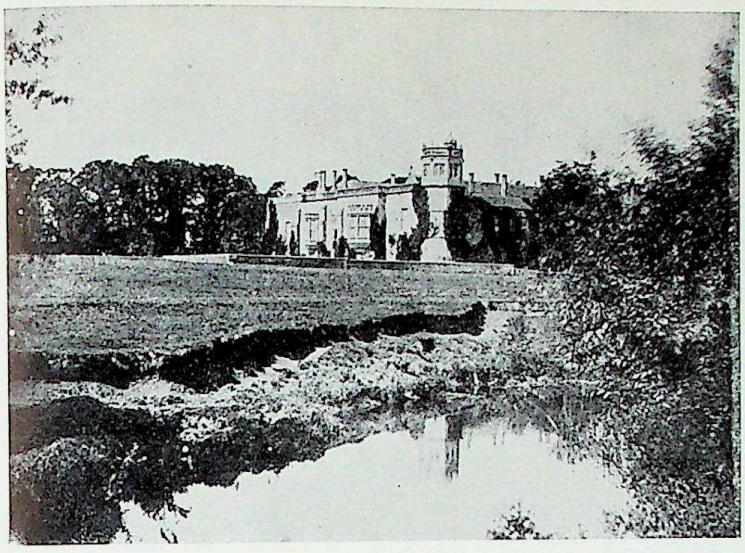

FOX TALBOT, Lacock Abbey *(left) and* The Ladder *(below). From* Pencil of Nature. *Calotype, 1844-46. Courtesy The Harold White Collection, Bromley, Kent, England.*

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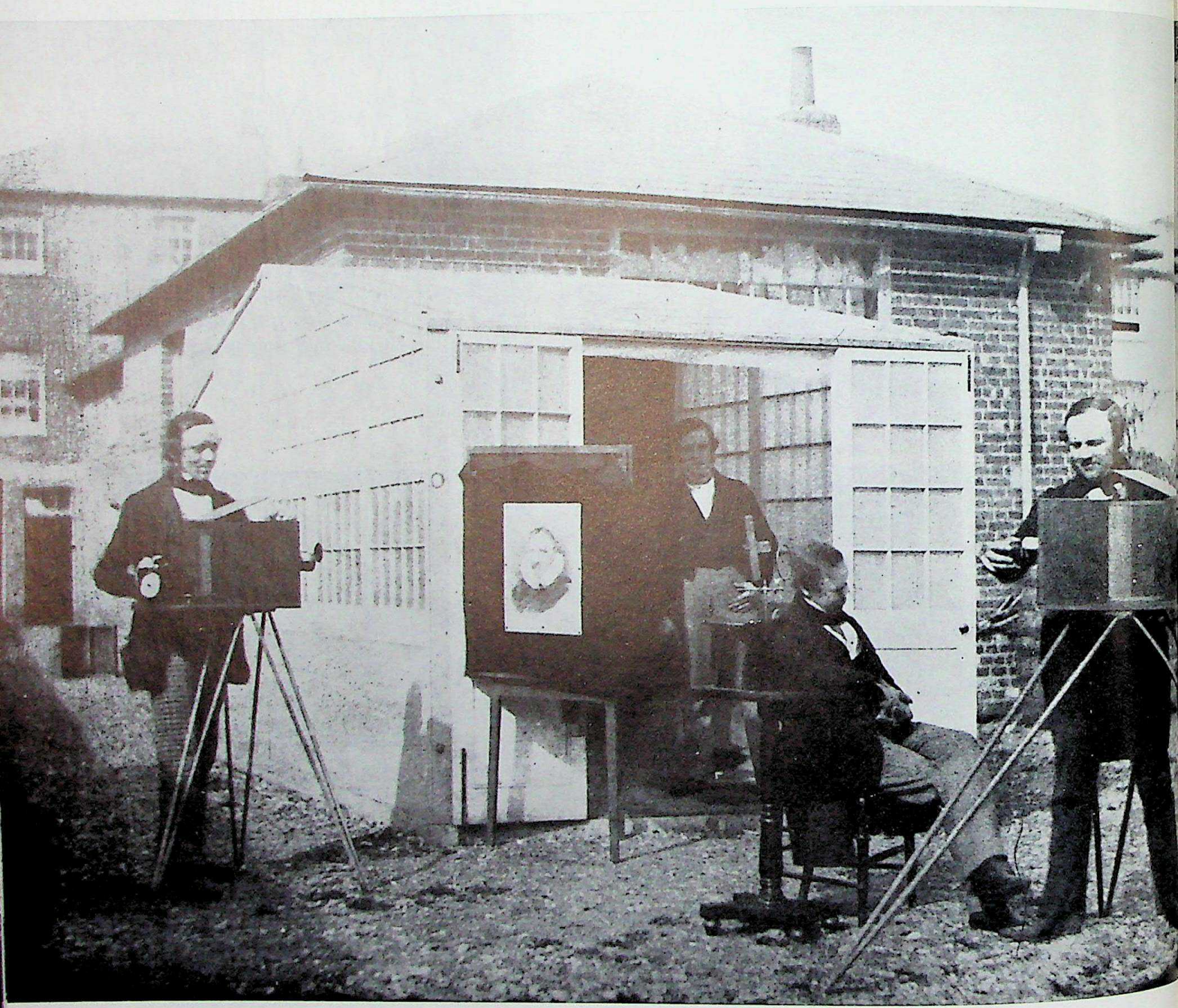

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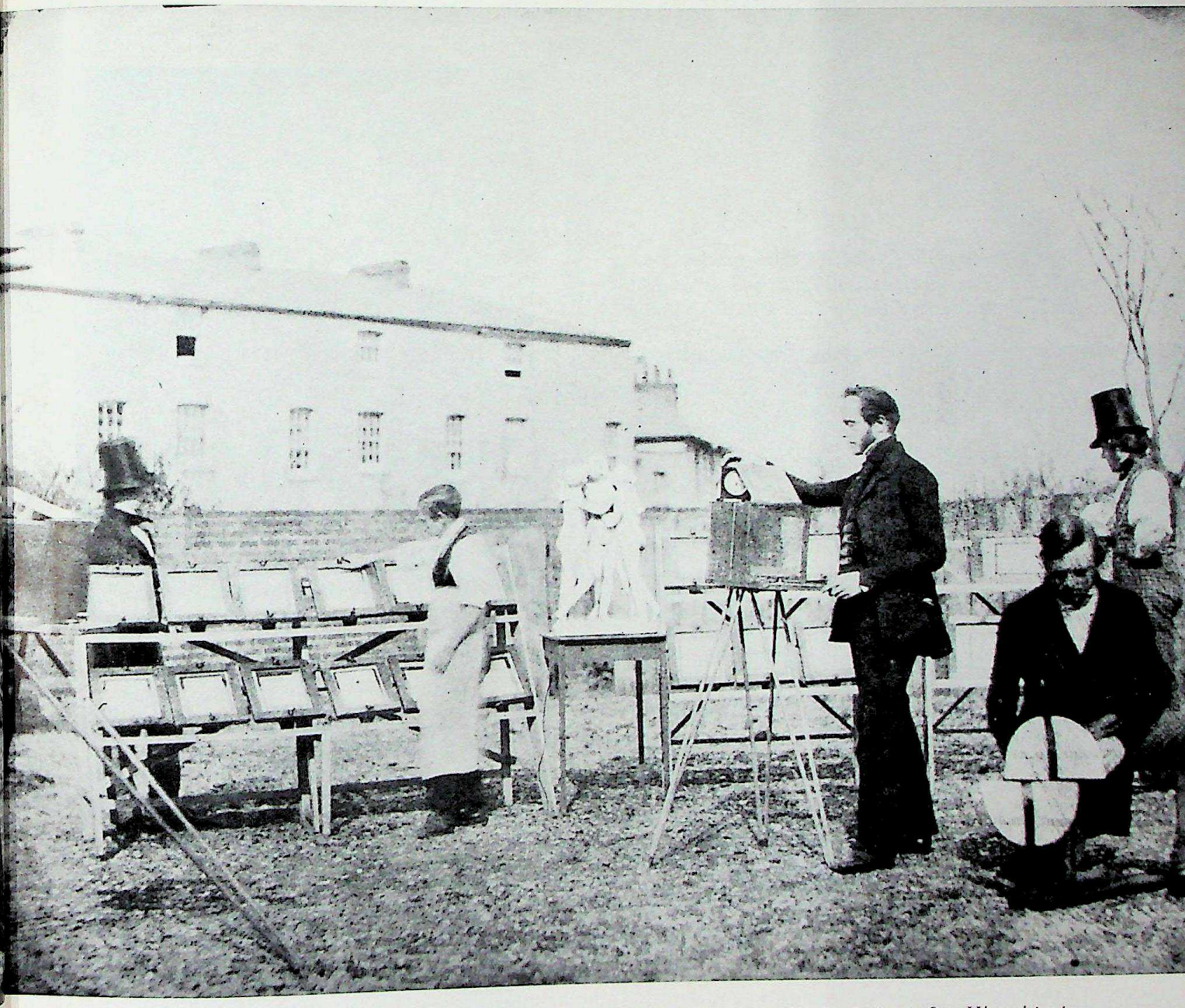

Fox Talbot's calotype establishment at Reading, England, about 1845. His assistants, seen from left to right in two separate exposures, are copying a painting, taking a portrait from life, printing by sunlight, and photographing a piece of sculpture. What the man kneeling at the right is doing is a mystery. Courtesy Science Museum.

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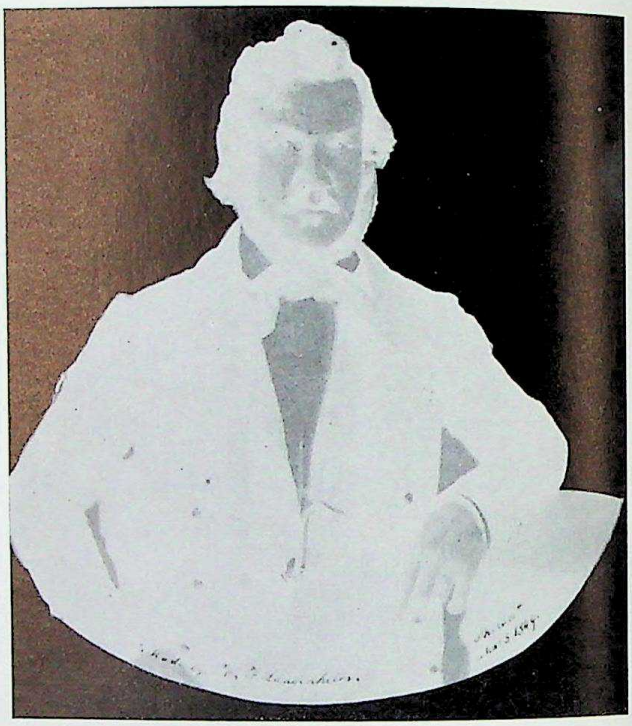
Paper envelope of the firm W. & F. Langenheim of Philadelphia, 1848, to whom Talbot sold patent rights for the United States. Courtesy George Eastman House.



Paper negative and print signed "Made by W. & F. Langenheim, March 5, 1849." Courtesy George Eastman House.

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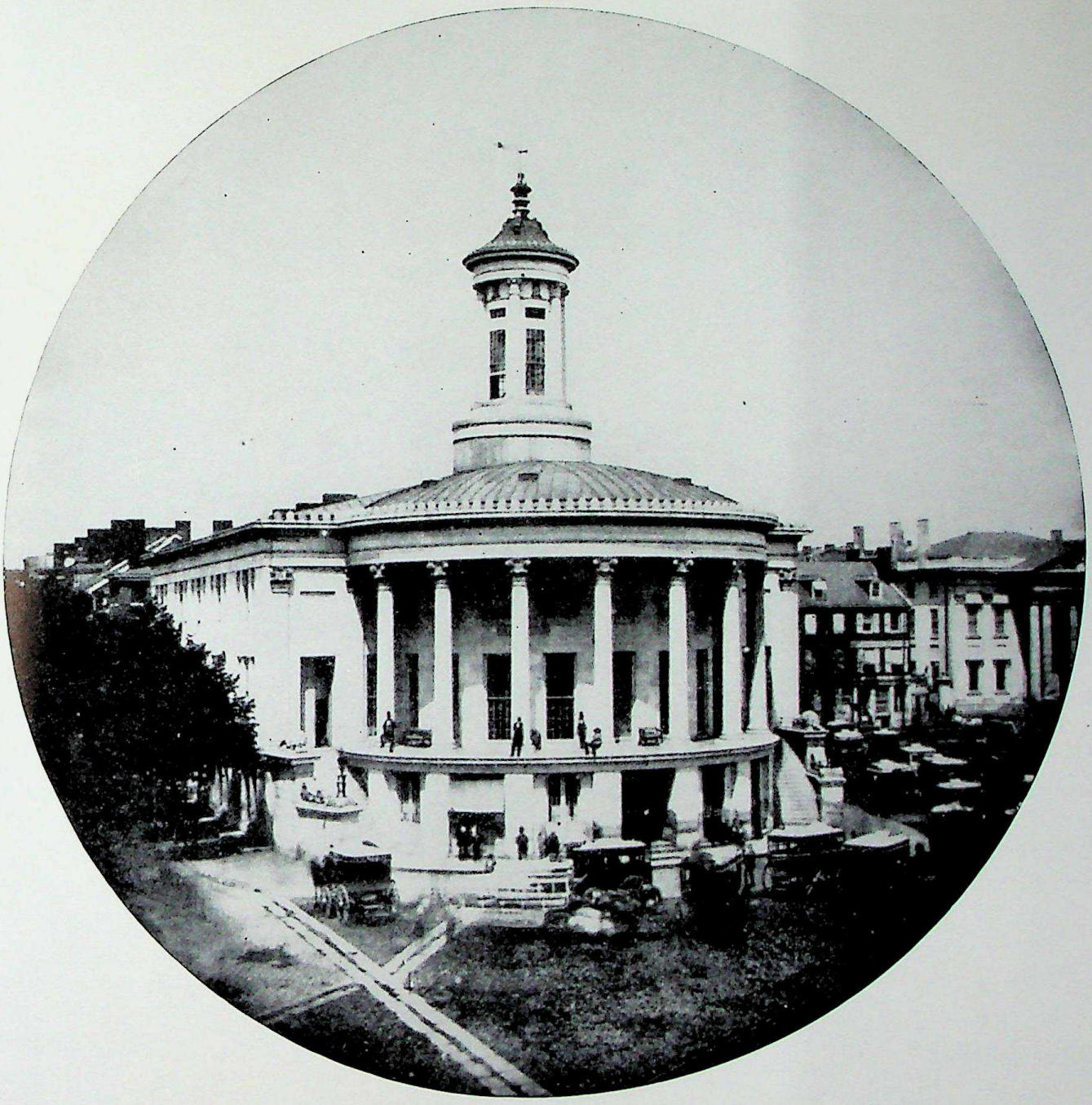

W. & F. LANGENHEIM, The Merchant's Exchange, Philadelphia. *Calotype, 1849. Signed and sent to Fox Talbot as a sample. Gift of Miss M. T. Talbot, Lacock Abbey, England, through Harold White, to George Eastman House.*

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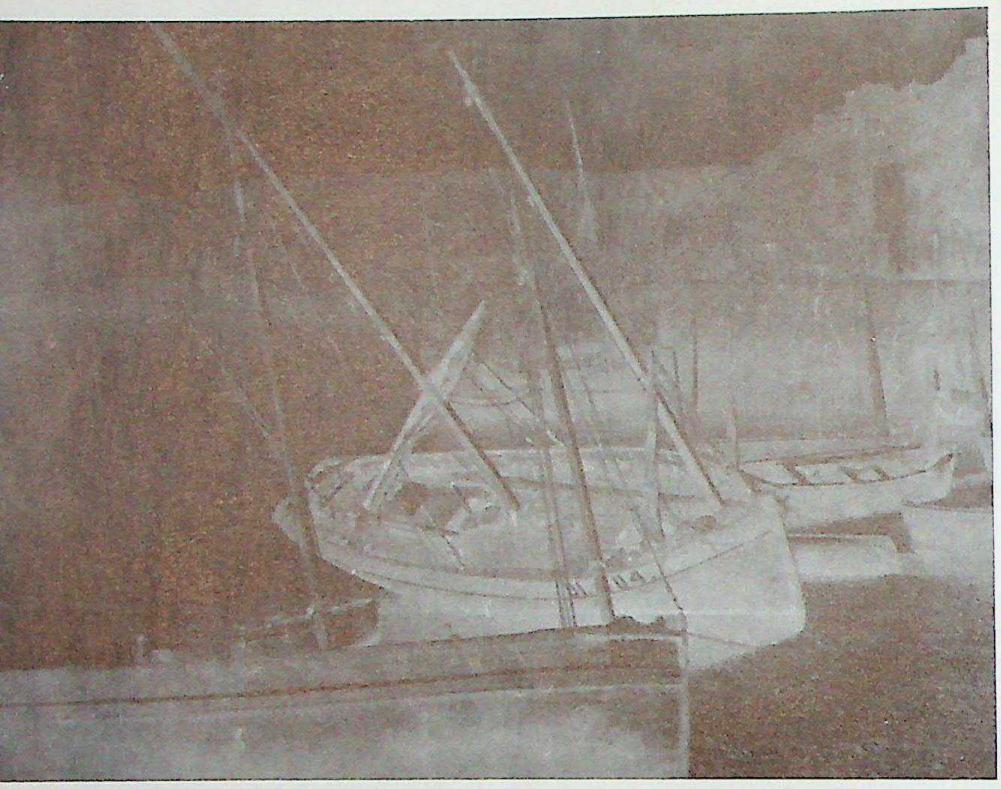

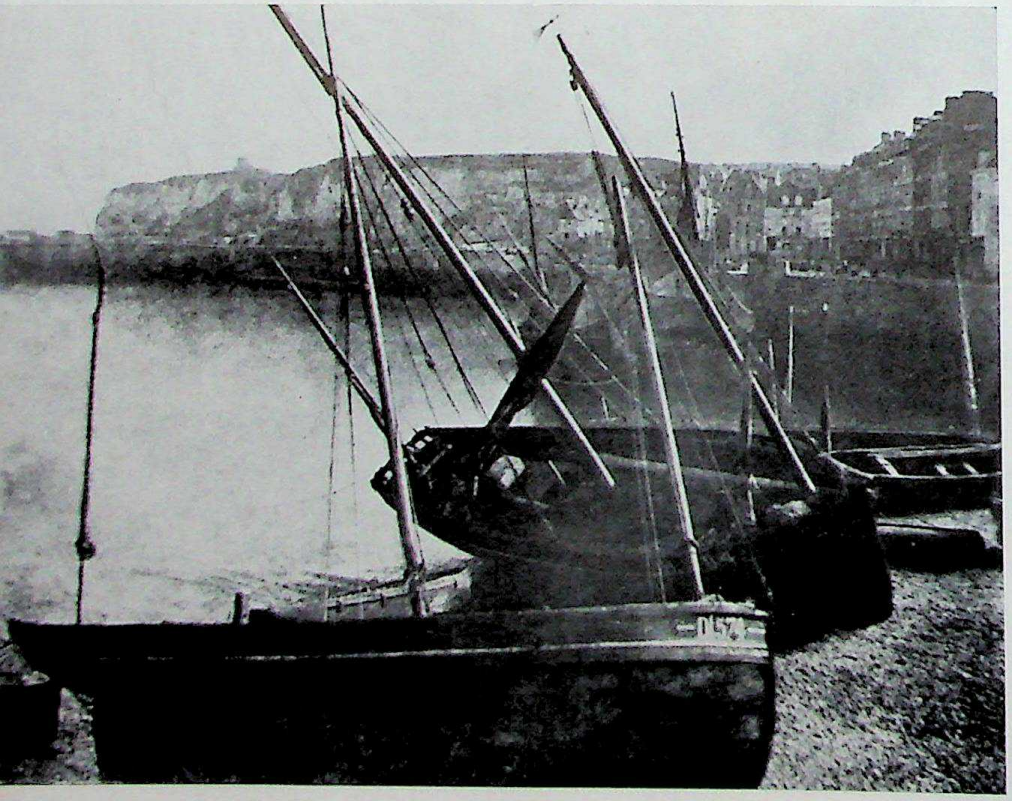

HENRI LE SECQ, Fishing Boats Pulled up on a Beach in France.
Paper negative and calotype, 1852. Courtesy George Eastman House.

Cathedral at Evreux.
Calotype negative, 1850.
Unknown French photographer.
Courtesy George Eastman House.

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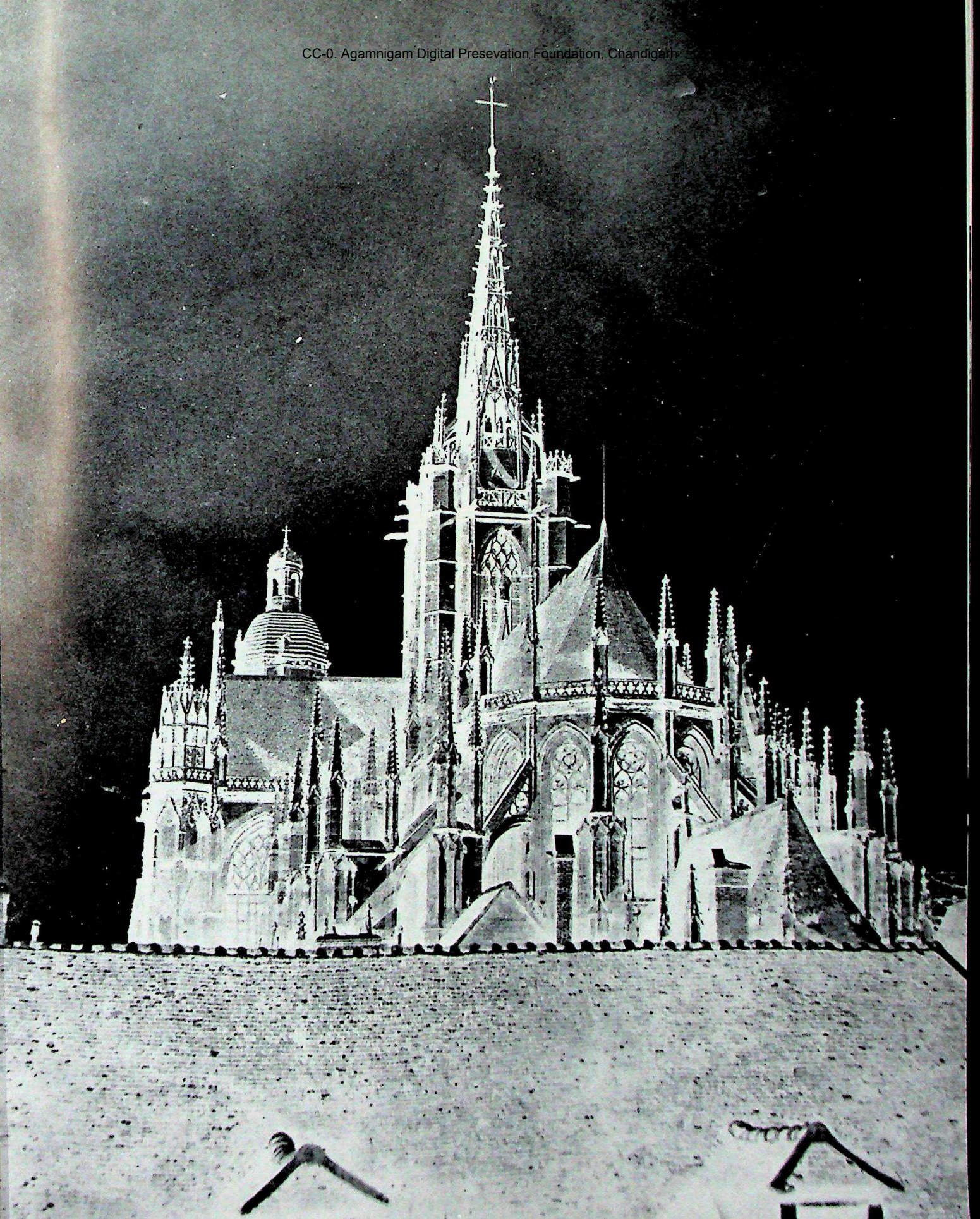

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7.

Hill and Adamson: The Great Collaboration

THE GREATEST EXPONENTS of the calotype process were two men of Edinburgh, Scotland (where Fox Talbot's patent restrictions did not extend), a painter, David Octavius Hill, and a chemist-photographer, Robert Adamson. Collaborators for only five years—Adamson died at the age of twenty-seven in the year 1848—they took more than 1,500 pictures, including some of the finest portraits in the history of photography.

How necessary the young technician Adamson was to the association is evident from the fact that Hill produced few memorable photographs after Adamson's death, although he attempted to collaborate with other photographers whom he directed.

Together Hill and Adamson made some superb pictures, posing people singly, in pairs, or in groups in open sunlight, simulating interiors by placing chairs and other props and backdrops behind and around the figures. The subjects held head in hand or posed leaning body against a prop and assuming a relaxed, natural pose for exposures lasting 1 to 3 minutes.

Character is boldly expressed in each portrait. No attempt is made to hide lined features. Often deep shadows are left to emphasize the black and white masses of the face, repeated dramatically throughout all parts of the picture, in the hands, in the garments, as well as in the backgrounds. Detail was sacrificed, for the paper negative

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could never compete with the daguerreotype in securing seductive detail. Areas of light and dark were handled like the chiaroscuro in a drawing by Rembrandt.

It was in 1843 that Hill turned to the use of the camera when he was commissioned by the Free Church of Scotland to paint an enormous picture, 11′4″ by 5′0″, *Signing the Act of Separation and Deed of Demission*. On this monumental canvas Hill was to portray all 470 minister-delegates who resigned from the Church of Scotland, on the grounds that the congregation had the right to choose its own ministers, and then met in general assembly to commemorate their freedom from Queen and landed gentry.

Hill and Adamson secured likenesses and character studies of practically all the delegates in the few short years of their partnership. Besides these photographs, they took pictures of celebrated men and women, people of nobility, sailors, fishermen, and women, as well as landscapes of their native Scotland. Each of their pictures was marked with the unique artistry of their collaborative seeing. They devised a perfect way of using creatively the imperfect paper negative.

Hill was an accomplished lithographer; before he was nineteen he had published a portfolio of thirty lithographs depicting scenery in Perthshire, Scotland. He later became a painter of moody, literary, romantic landscapes. He painted a series of canvases interpreting the poems of Robert Burns; these were engraved and published as *The Land of Burns*.

In 1866, four years before his death, Hill's culminating work to which he had devoted twenty-two years of his life was at long last finished, and the huge canvas was accepted by the sponsor, The Scottish Free Church. All the ministers can be identified, as can Hill himself, his wife, and the lamented Adamson with his camera. The picture still hangs in the Presbytery Hall in Edinburgh.

Hill's paintings are not often remembered in discussions of nineteenth-century art. His work, with some few exceptions, pieces like the small painting *Leith Pier* now in the National Gallery of Scotland, would perhaps be entirely forgotten if it had not been for his collaboration with Adamson in photography.

It is to the everlasting credit of J. Craig Annan, a photographer in the 1890s who made prints from their old paper negatives, that interest was revived in these two pioneering Scotsmen, whose penetrating portraits are now conceded to be some of the finest ever made in the field of photography.

DAVID OCTAVIUS HILL, Leith Pier.
Oil painting on wood panel, 1840, 11¾ x 13½ inches.
Courtesy The National Gallery of Scotland, Edinburgh.

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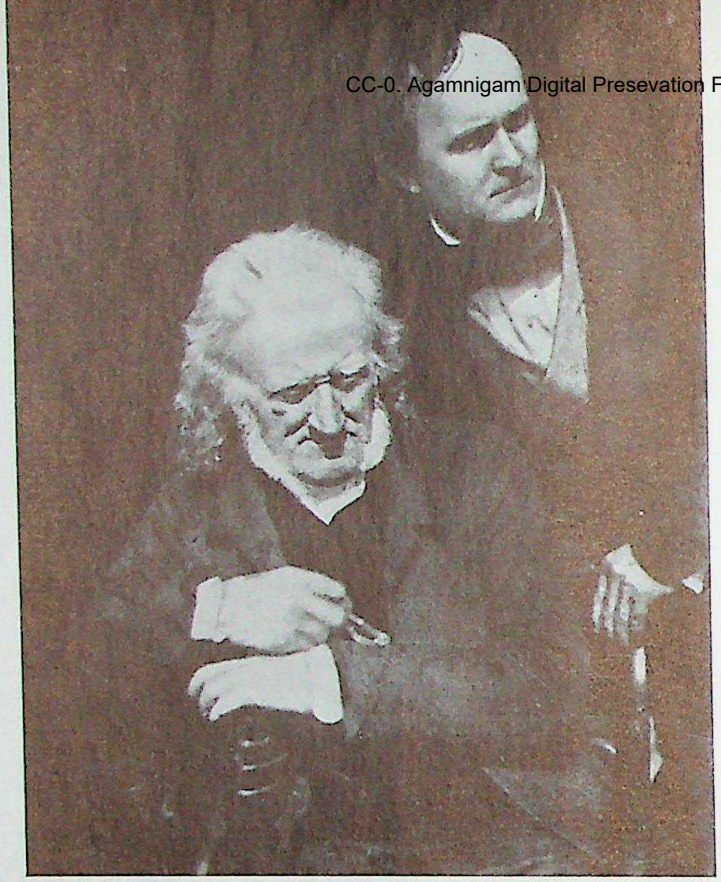

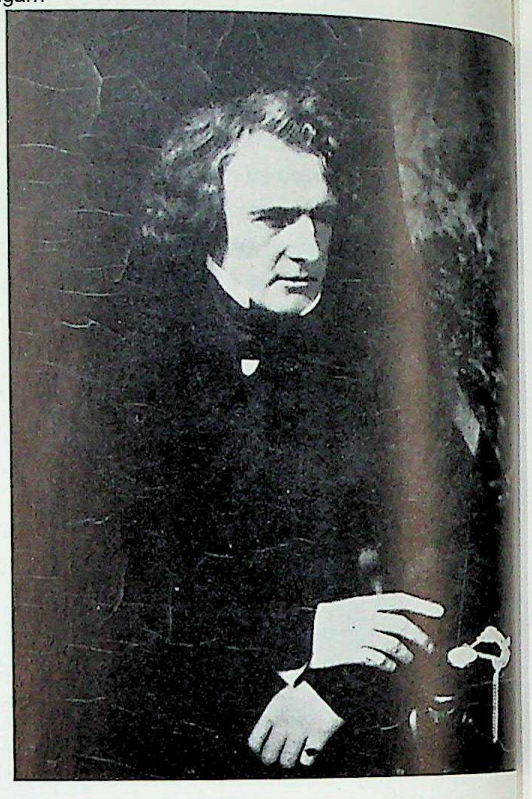

DAVID OCTAVIUS HILL AND ROBERT ADAMSON
above: John Henning and Alexander Handyside Ritchie. *Calotype, about 1845. The two noted sculptors, friends of Hill, were his associates in the Royal Scottish Academy.*
above right: Photograph of a Man. *Calotype, about 1846. Both, courtesy The Art Institute of Chicago, Stieglitz Collection.*

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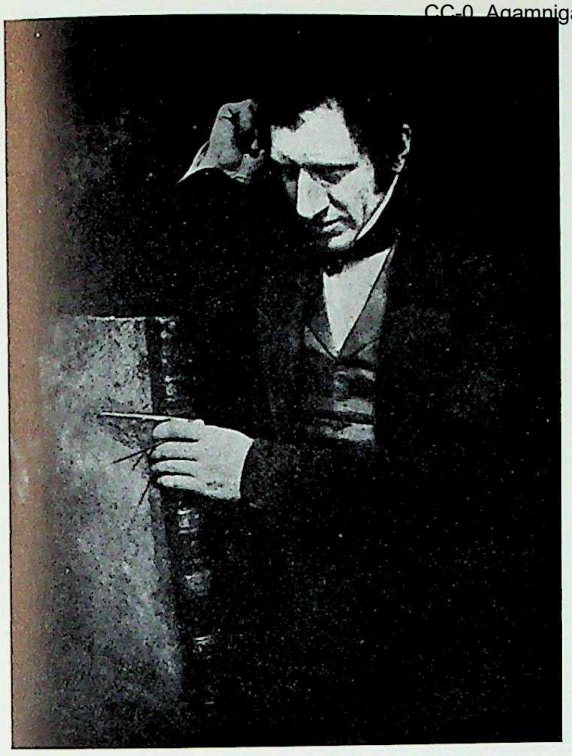
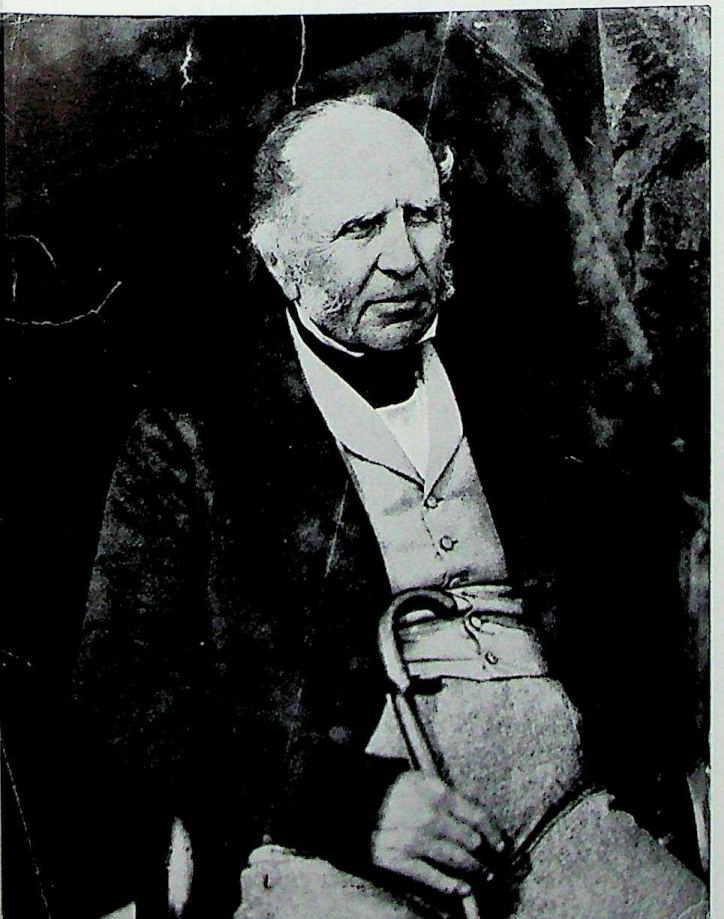


above: HILL AND ADAMSON, James Nasmyth. *Calotype, 1845. Portrait of the engineer and inventor of the steam hammer. Courtesy The Art Institute of Chicago, Stieglitz Collection.*
above left: ROBERT ADAMSON, David Octavius Hill. *Calotype, about 1843. Courtesy George Eastman House, Rochester.*



HILL AND ADAMSON, Portrait of a Minister. *Calotype negative and print, about 1845; contemporary print made from the original paper negative. Courtesy George Eastman House.*

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HILL AND ADAMSON

right: Mrs. Anna Brownell Jameson, *author. Calotype, about 1846. Mrs. Brownell's works included* Visits and Sketches, *a four-volume account of her impressions of travel in Germany. Courtesy the Art Institute of Chicago, Stieglitz Collection.*
below left: Newhaven Fisherwomen. *Calotype, about 1845. Contemporary print made from original paper negative. Courtesy George Eastman House.*
below right: Lord Patrick Robertson. *Calotype, about 1845. Jurist and Lord Rector of the University of Aberdeen, to whom Walter Scott gave the nickname, "Patrick of the Paunch." Courtesy The Art Institute of Chicago, Stieglitz Collection.*

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HILL, *Detail from* Signing of the Deed of Demission.
Painting completed in 1866. Hill is seen with pencil and sketchbook, Adamson with camera. Courtesy Gernsheim Collection, London.

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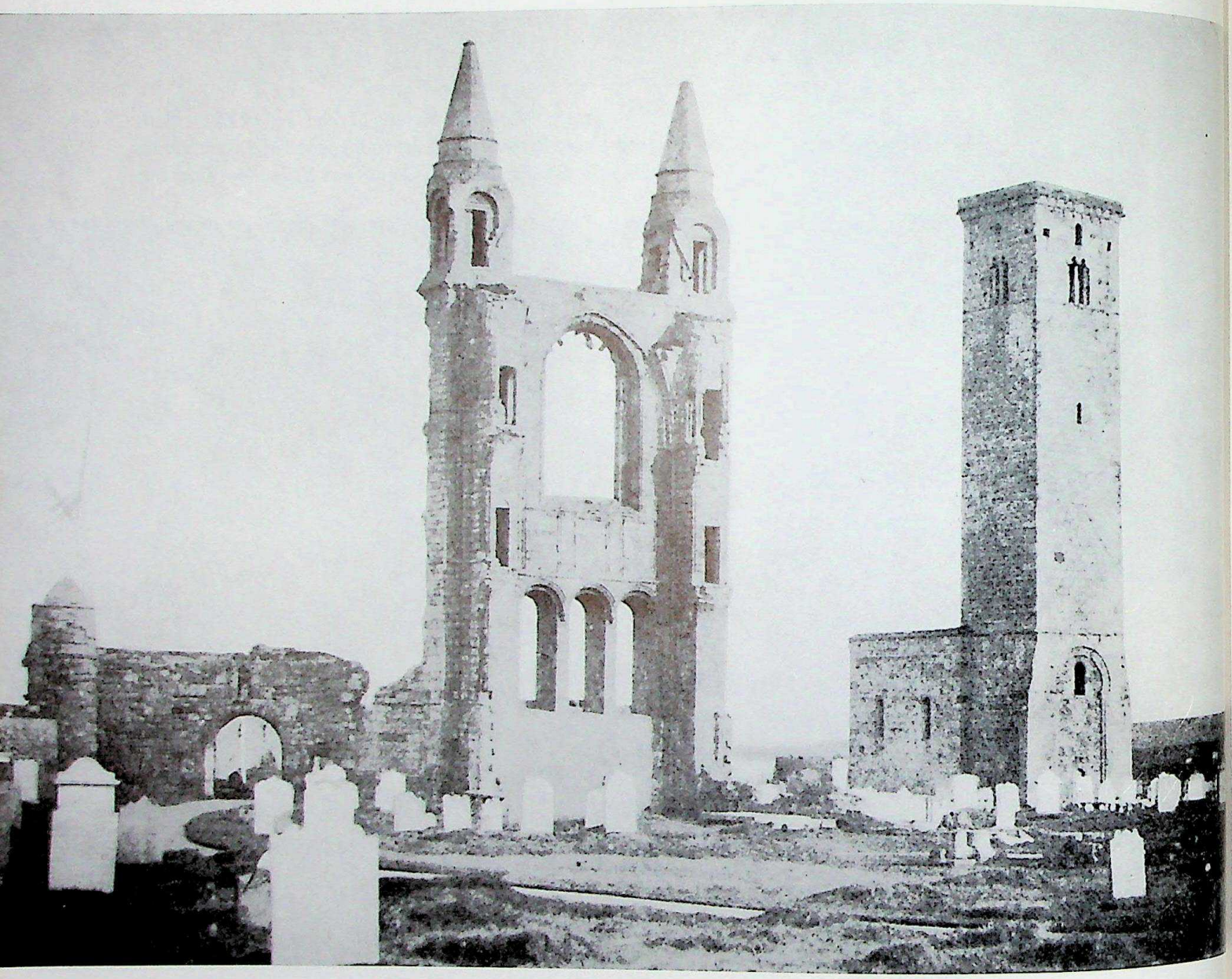

HILL AND ADAMSON. *Two rare calotype photographs of landscapes, both taken between 1843 and 1848.*
Courtesy George Eastman House.
above: St. Andrews.
right: Ruins of Castle and Sea.

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8.

Early Wet-Plate Photography

Sir John Herschel experimented, none too successfully, with glass instead of paper or metal as a backing for sensitive silver salts. Niepce de St. Victor, a cousin of Nicéphore Niepce, perceived in 1847, upon studying Sir John's report published in the *Journal* of the Royal Society, that Sir John had failed to coat the glass with a suitable organic substance to serve as a binder for the sensitive silver.

A soldier by profession but an amateur scientist by avocation, Niepce de St. Victor lost his laboratory in the Revolution of 1848 when the barracks in which he resided were destroyed. He nevertheless continued his studies, experimenting first with starch and gelatin and then more satisfactorily with whites of eggs. To the white of egg he added a few drops of iodide of potassium and bromide of potassium plus a few grains of common salt, thoroughly whipped it into a froth, and then strained it through fine muslin.

This solution of iodized albumen he used to coat a sheet of glass and, when it was thoroughly dry, sensitized it by immersing it in nitrate of silver. The plate could be used wet or dry in the camera, but when dry it required a much longer exposure than did a daguerreotype or calotype. Convinced that his invention would have some importance in the world of photography, Niepce de St. Victor communicated his albumen process in June, 1848, to the Academy of Sciences in Paris.

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Immediately after publication of the process, modifications and improvements were suggested for speeding up the sensitized albumen so that it could be used for taking portraits and figures, as well as architecture and landscape.

To eliminate the grain and other imperfections in paper, L. D. Blanquart-Evrard conceived the idea of coating paper with albumen for positives. After development, he dipped the print in a solution of chloride of gold, to achieve a range of cold pleasing tones in browns and grays as well as to make the image more permanent.

The consumption of eggs for albumen paper, which lasted as the most popular paper for more than forty years, was astronomical. All over the world hundreds of millions of eggs were broken open annually for the whites, the yolks either being wasted or sold to tanneries and bakeries.

Blanquart-Evrard, who had improved the calotype process but who never mentioned Talbot as its original inventor, established in Lille, France, the first mass-production, assembly-line method of printing. He employed about 40 girls, each of whom was trained to perform a specific operation. Blanquart-Evrard published in 1851 in France the first album of views with original photographs, and in the following year was the first to publish a book, *Egypte, Nubie, Palestine et Syrie,* illustrated with original photographs. This was an exceptionally attractive volume consisting of 125 brilliant prints from paper negatives taken by Maxime Du Camp, a noted writer turned photographer, who toured the mid-East for two years with the brilliant author and critic, Gustave Flaubert.

The paper negative experienced one further major improvement before it, like the daguerreotype and all other early processes, fell into limbo with the advent of Scott Archer's invention of the wet-collodion process. Gustave Le Gray, in 1851, immersed the paper negative in wax until it was completely impregnated, and then dried and sensitized the paper. The negative was now transparent; imperfections of the paper were now eliminated; and, above all, the negative could now be kept up to two weeks and then used dry. In addition to inventing the waxed-paper process, Gustave Le Gray experimented with collodion on glass and claimed to have invented the collodion process—but this was several months after Scott Archer in London had announced the substitution of collodion for albumen on glass and had published his formula in *The Chemist,* March, 1851.

Scott Archer, a British sculptor and photographer, dissolved guncotton, ether, and alcohol to make collodion (this formula had already been known to medicine for several years) and blended this with a solution of silver iodide and iodide of iron. This mixture was coated on a clean glass plate, which was then immersed in a solution of distilled water and silver nitrate, and exposed wet in the camera. The plate had to be developed while the collodion was still moist. The new process was faster than albumen or any of the other photographic methods. It required only 2 or 3 seconds exposure in direct sunlight, and the resulting subtleties of tonality were unequaled by any existing processes.

How generous was Scott Archer! He could have patented his invention and made untold fortunes for himself and his heirs, for the wet-collodion process was not to be superseded until more than thirty years later when the gelatine dry plate was marketed commercially. Archer announced his invention without restrictions and died impoverished at the age of forty-four in 1857. His name today is hardly known even by the innumerable commercial photoengravers all over the world who still use his invention of the wet-collodion process.

Since the ether in the collodion evaporated quickly, it was necessary to develop the plate directly after exposure. In extreme climates of desert or mountain this caused considerable difficulty, particularly since all preparations of the plate had to be done in total or semi-darkness. Not only was it necessary for the photographer to move with cameras, tripods, lenses, chemicals, glass plates of various sizes to fit his cameras, distilled water, measuring pots and trays, he had to lug along also a darkroom; all of this paraphernalia weighed about 120 pounds. A tent was invariably used for developing, although wicker baskets, boats, railway cars, wagons, and handcarts were at times transformed to serve this purpose.

The wet-collodion process was immediately applied to portraiture. In America, where the daguerreotype held in fashion and demand longer than anywhere in Europe, a patent was issued for "ambrotype" portraits made in the same sizes as daguerreotypes and advertised as having the advantage of being visible at all times, not, like the mirror-like surface of the silver image, only in certain lights.

Ambrotypes (from the Greek for "imperishable") were negative portraits on glass deliberately underexposed to make a faint image. These were backed up with black paper or velvet or sometimes painted black. As the image was reversed, it was often the practice to lay the glass negative face-down on the paper or velvet

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to make it appear as a positive. With a sheet of glass as a protecting cover, the entire assembly was then placed in an elaborate designed "union" case, which made it resemble even more closely the costlier daguerreotype.

Three photographers who took superb pictures with the collodion process, one in the deserts of Egypt and the other two in the Alps of Switzerland, were Francis Frith of England and the Bisson brothers of France:

The Middle East was part of the Grand Tour during the latter part of the nineteeth century, creating a constant demand for photographs of Egyptian antiquities and views of the Nile River and of the Holy Land. Publishers in Europe and England sent expeditions of photographers to appease this public demand from which they reaped considerable profit. A publisher who was also a talented photographer, Francis Frith of London, in 1856 traveled up the Nile taking pictures with various-sized cameras, one for tremendous plates measuring 16 by 20 inches. Starting from the Delta, he went up the river more than 800 miles to the Fifth Cataract, beyond the present border of Egypt and the Sudan. He took magnificent pictures of the Pyramids and the Great Sphinx at Gizeh, the Temples at Karnak and Luxor, the monumental sculpture submerged in the sands at Thebes, and fragments of architecture peering through the backed up waters of the Nile at Philae.

How spectacular a series of pictures! What fortitude and resourcefulness it required of Francis Frith to get them! In the dry heat of Egypt the wet-collodion dried much faster than the usual 10 minutes it took on a hot summer day in England. Every movement in the stifling darkroom tent had to be carefully husbanded. The fumes evaporating from the ether, held inside the airless tent, were suffocating. The heat of the desert outside the tent would often reach 110 degrees, and inside, at temperatures of 130, the collodion boiled. At times the sudden sandstorms would pockmark the plates or ruin them entirely. Despite all these hardships Frith secured sufficient negatives to make a selection of extraordinary pictures for publication the following year in a book on Egypt containing original photographs and descriptions of his experiences. From his three trips to Egypt and the Holy Land Frith published a total of seven books.

Though he assembled many more portfolios of photographs covering his extensive travels throughout western Europe and also made twenty-four photographs illustrating Longfellow's *Hyperion*, his finest photographs are those he took the first years with his camera on his trips

Advertisement for albumen paper, about 1860. Courtesy George Eastman House, Rochester.

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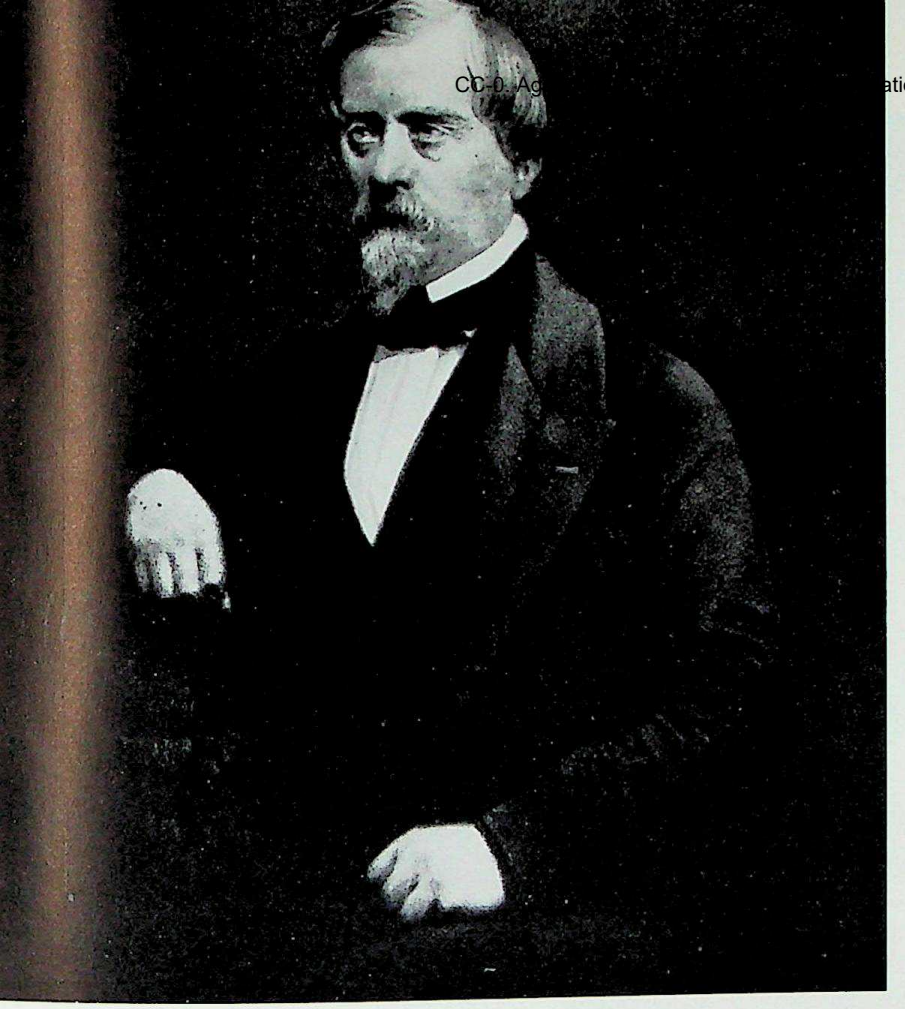

Portrait of Niepce de Saint-Victor. *Photographer unknown. The inventor of the albumen process, from a photocopy of an albumen original, about 1848. Courtesy George Eastman House.*

to the Middle East. Frith lived to be seventy-six years old, dying in 1898.

To some photographers using the collodion process, the hot light and hardships of the desert were not comparable to the cold light and hardships of the mountains. It became a feat of endurance to take pictures in the intense cold of ice and snow on windswept peaks at approximately 16,000 feet, in the heady atmosphere of the Alps. Some of the finest photographs of mountain scenes ever taken are the work of Louis Auguste Bisson and his brother, Auguste Rosalie. In an album owned by Eastman House the pictures contained are all marked with a stamp in red ink on the lower right corner, "Bisson Frères." Entitled *Mont Blanc and Its Glaciers*, the twenty-four photographs range in size from 9 inches by 15 inches to 12 inches by 17 inches. They were made by the brothers Bisson in 1860 on a mountain-climbing expedition when they accompanied Emperor Napoleon III and Empress Eugénie to Switzerland. The plates were coated with collodion which barely flowed in the below-zero cold of the Alps and, after development, were washed with melted snow. Despite the imperfect coating of the plates, which accounts for the uneven quality in the skies, the photographs of the mountains are superbly designed and dramatically composed in bold areas of black and white. The brothers repeated the ascent the following year, setting out from Chamonix with guide and a band of porters to carry their photographic gear. They reached the summit in the early morning, broke out the equipment, heated the collodion over weak lamps in the bitter cold, sensitized the plates, took the pictures, developed them before the collodion hardened or froze, then washed the developed negatives in ice-cold water. From the top of the mountain they managed to get three pictures, repacked their gear, and started down the dangerous descent. Lower down the dedicated men again assembled the camera and equipment for several more excellent views on the open glacier.

Louis Auguste Bisson was known to have made daguerreotypes as early as 1840, portraying a smiling infant,

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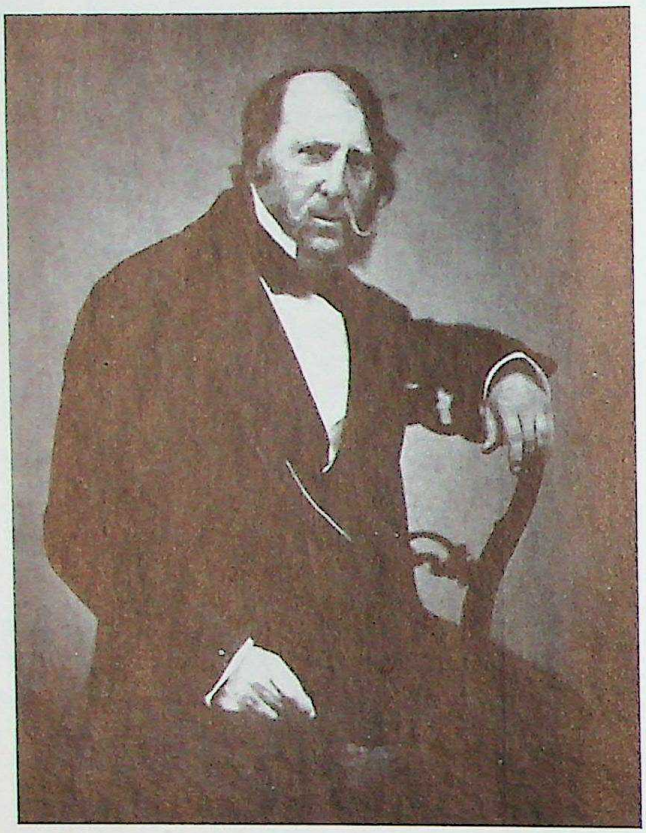

Portrait of George Cruikshank. *Wet-collodion process, 1854. Photographer unknown. The English caricaturist and wit. Courtesy George Eastman House.*

Portrait of Frederick Scott Archer. *Ambrotype, 1855. The inventor of the wet-collodion process, which revolutionized photography. Courtesy Science Museum, London.*

a mourning procession, and the bridges of Paris. In the first daguerreotype exhibition held in Paris in 1844, François Arago singled out one of Auguste's daguerreotypes for an award.

The Bisson brothers were the sons of an artist who specialized in heraldic painting. Louis Auguste studied architecture and chemistry, but became a pupil of Daguerre the year the process was announced and in less than a year opened a studio with his brother.

It is not for their daguerreotypes, however, that the Bisson brothers are remembered, nor for their landscapes, architectural subjects, and copies of paintings that they used to illustrate books, but rather for their fearless assaults on Mont Blanc when they secured a mere handful of exceptionally beautiful pictures.

Another courageous photographer, the first to cover a war under fire, was Roger Fenton, who photographed the Crimean War in 1855. Equipped with a darkroom wagon boldly emblazoned "Photographic Van," he took pictures of the fortifications, ships and stores, installations, battlefields, officers, and men, and some of the most attractive behind-the-lines canteen operators seen in any war, who doubled as nurses for Florence Nightingale. The heat of the Russian peninsula in the Black Sea, coupled with the necessary long exposures, created hardships in preparing the short-lived collodion glass plates, which often kept Fenton from taking photographs during the several hottest hours of the day. Despite all discomforts and the sicknesses epidemic in the area, Fenton succeeded in securing more than 300 negatives in less than four months. A trained painter, Fenton overcame the obstacle of his big cameras, which prohibited instantaneous pictures, by encompassing in his ground glass vast subjects and wide vistas creating engaging compositions. These are often dramatically theatrical, resembling the romantic painting of the period in mood.

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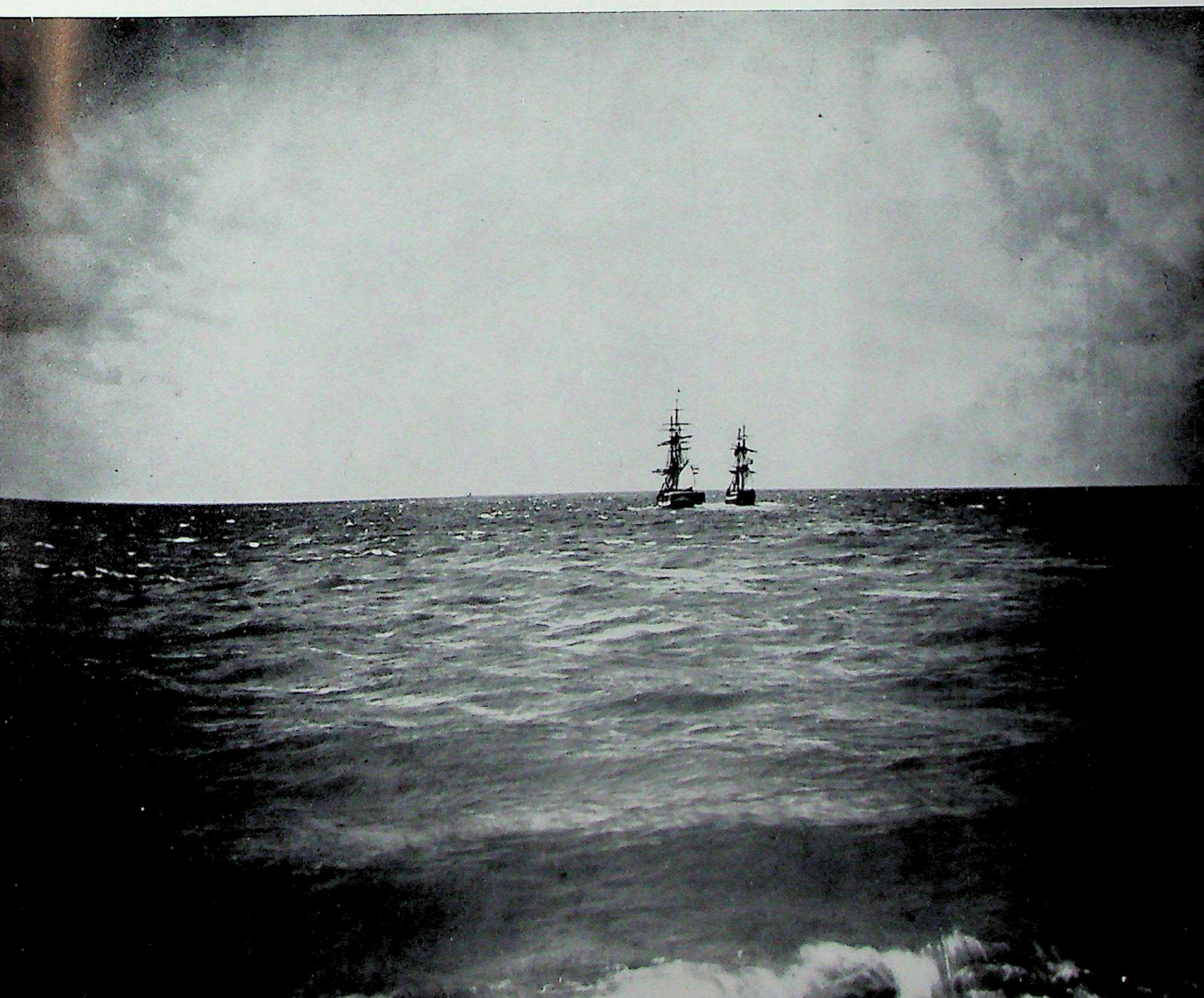
Equally theatrical are his posed portraits of the fashionably appareled generals.

Photographers the world over turned to the use of the wet-plate process. The Indian Mutiny of 1857 was recorded by F. Beato, a photographer whom Sir John Campbell (later to become Lord Clyde) included in his command when he stormed and subdued Lucknow and other centers of the massacre.

William Notman in the 1860s became internationally famous for his wet-plate pictures of Canadian pioneers. He took a series of moose and buffalo hunters in "the bush" seated around a tent, trappers and guides wearing snowshoes in snow made of salt and white-fox fur, an Indian boy with a loaded toboggan, all held rigid in most complicated poses inside his Montreal studio, where he created elaborate settings praised as more realistic than those actually found in nature. The faster and versatile wet-collodion process freed the artistry and imagination of photographers, who left astounding records of their day throughout the entire world.

GUSTAVE LE GRAY, Seascape. *Wet-collodion photograph, 1856. For the first time, clouds, rolling waves, and a ship in motion have been stopped with "instantaneous" photography. Le Gray was an artist, photographer, and inventor of the waxed-paper process. Courtesy George Eastman House.*



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A. MACGLASHON, Bullock Wagon in Melbourne, Australia. *Wet-collodion photograph, 1856. One of the earliest photographs taken in Australia. MacGlashon later collaborated briefly with David Octavius Hill in Edinburgh in 1862. Courtesy George Eastman House.*

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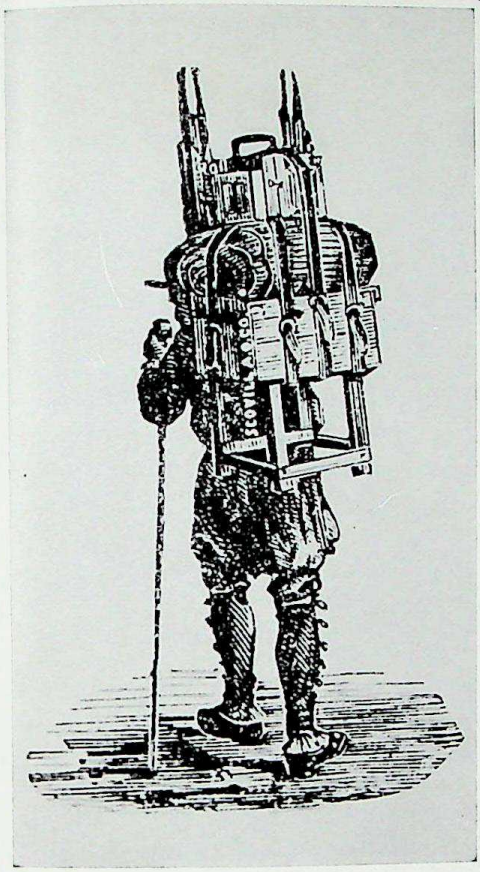

Two wood engravings of the photographer's pack, 70 to 120 pounds of equipment, during the wet-collodion period. In the 1870s the Scoville trademark was overprinted on the engraving made earlier in France. Courtesy George Eastman House.

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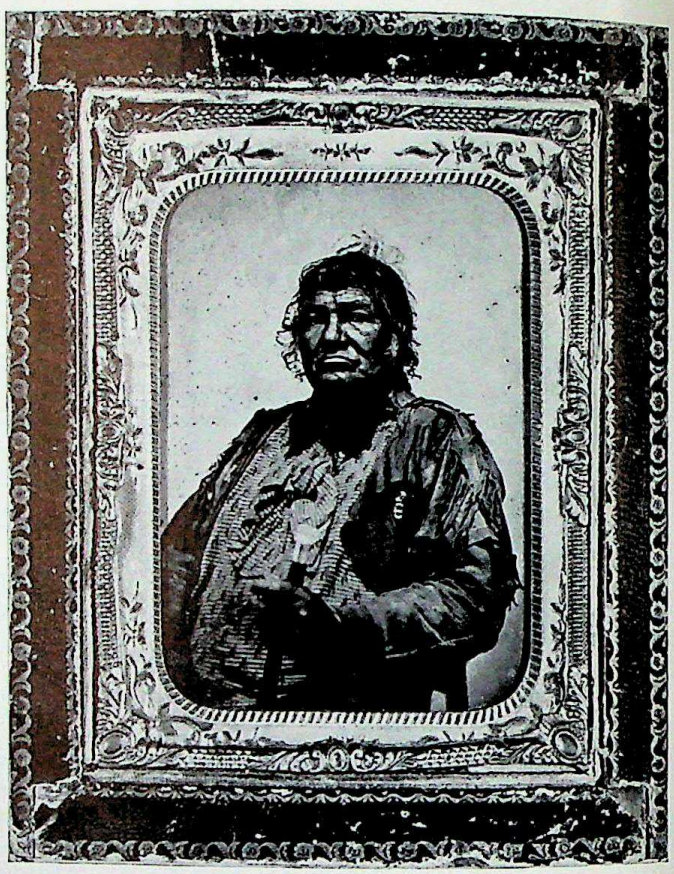
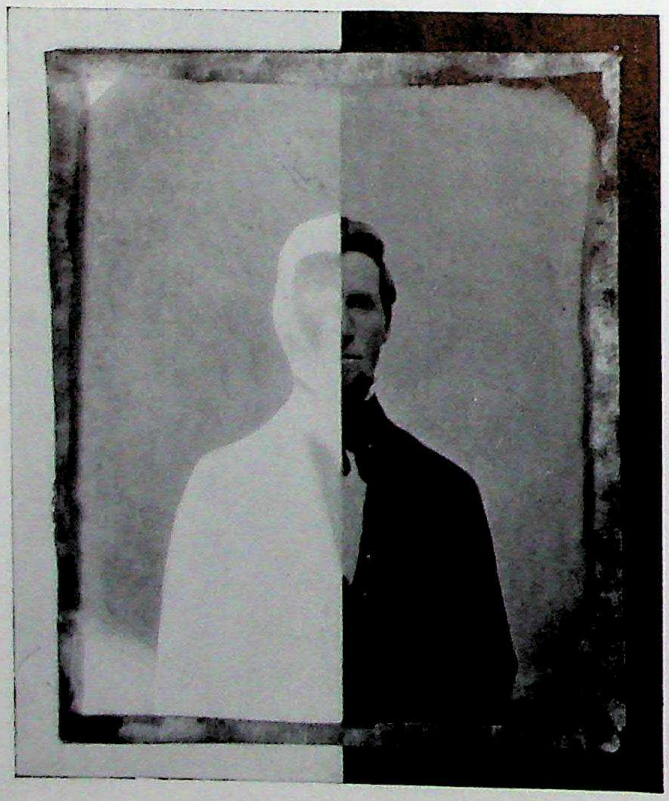


H. B. FIELD, Shabbona. *Ambrotype, 1857. Portrait of the eighty-two-year-old Indian chief. Courtesy Chicago Historical Society.*



Ambrotype with black backing on one half to show its negative-positive character. Courtesy George Eastman House.

MAXIME DU CAMP, Colossus of Abu Simbel, Egypt. *Calotype, 1850. Printed by Blanquart-Evrard. Courtesy George Eastman House.*

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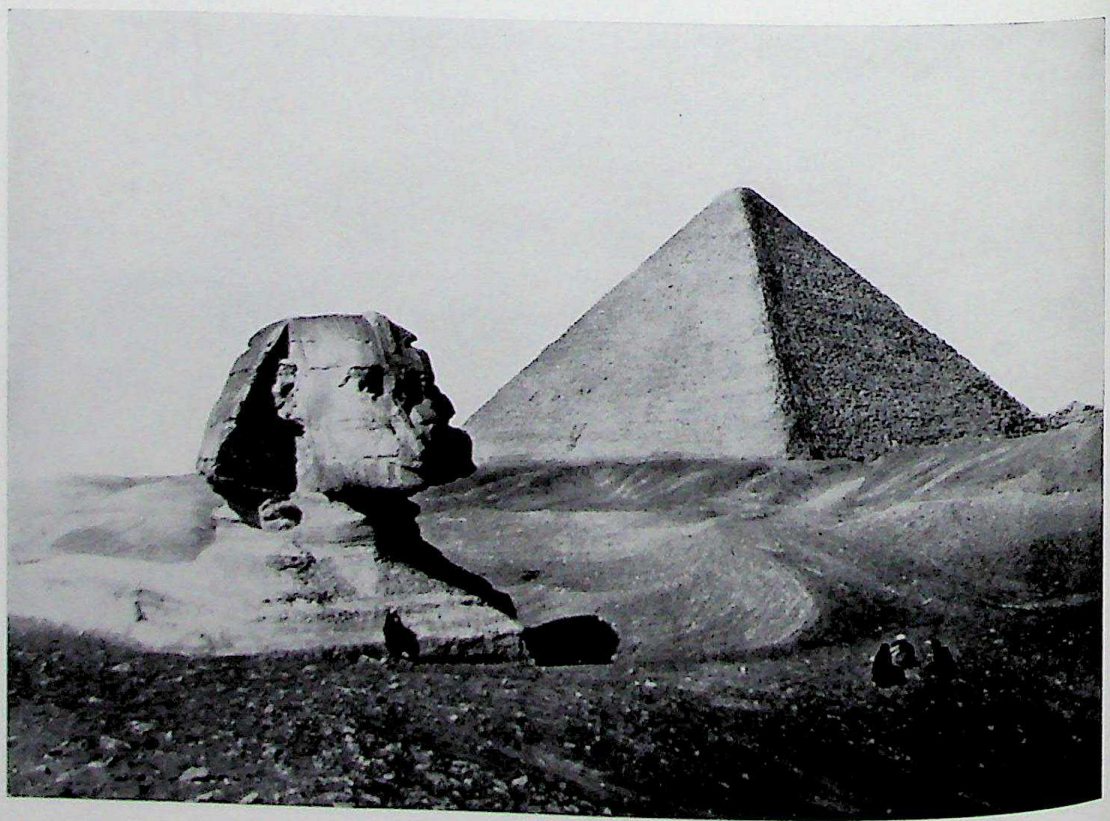

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FRANCIS FRITH. *Wet-plate photographs.*
above: Entrance to the "Greek Temple," Luxor, Egypt. 1856.
opposite page, top: Assouan, Egypt. 1856.
Both, courtesy The Art Institute of Chicago.
opposite page, bottom: Pyramid of Cheops and the Sphinx, Gizeh, Egypt. 1858. *Courtesy George Eastman House.*

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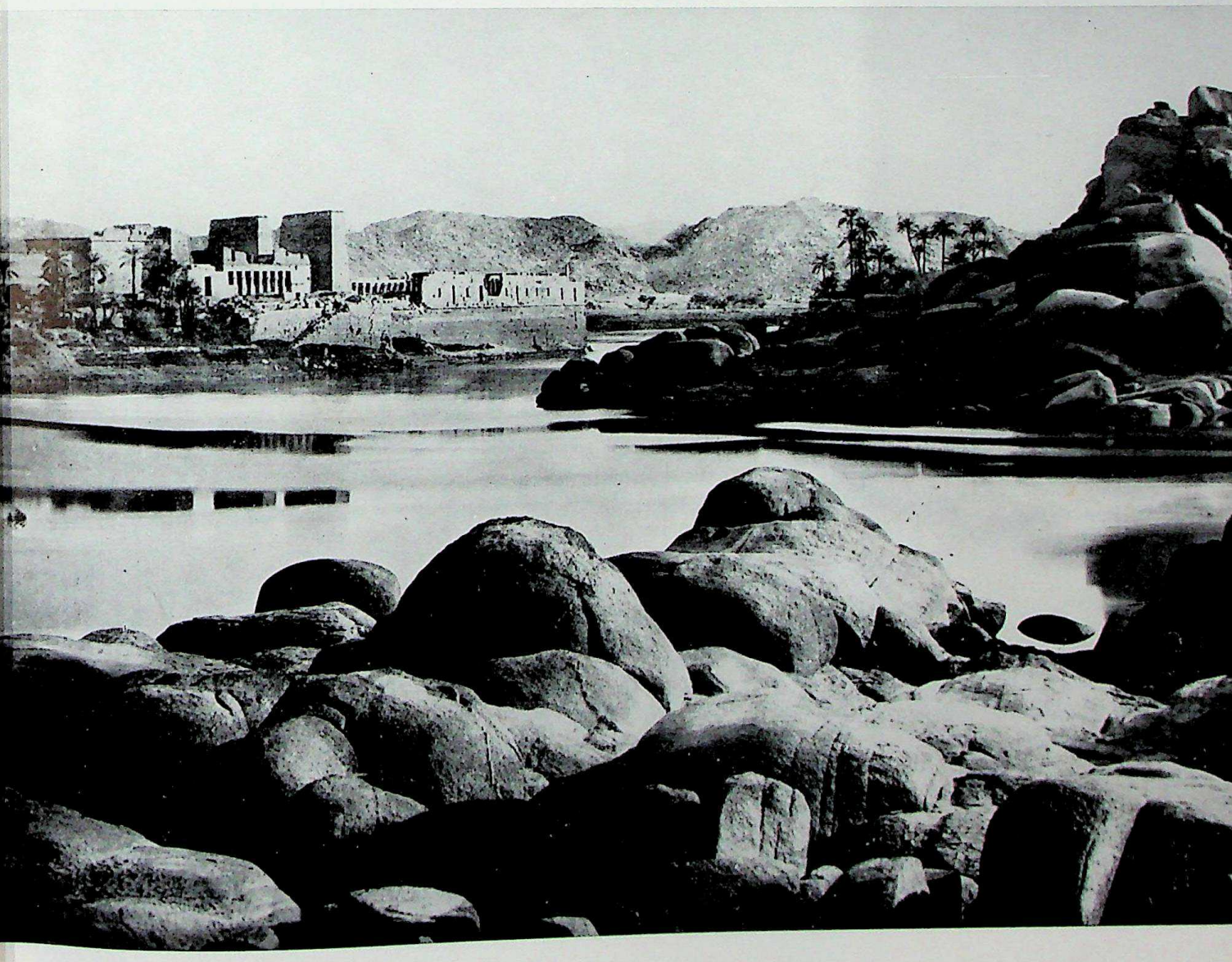
FRITH. *Wet-plate photographs, 1856.*
left: Hypostyle Hall, Luxor, Egypt.
below: Approach to Philae, Egypt.
Both, courtesy The Art Institute of Chicago.



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BISSON FRERES. *Five photographs of the Alps. Wet-plate process, 1860.*
Taken by the Bisson brothers when they ascended Mont Blanc, accompanying Emperor Napoleon III and the Empress Eugénie. Courtesy George Eastman House.
above: Halfway Point.
right: Entrance to the Valley of Chamonix.

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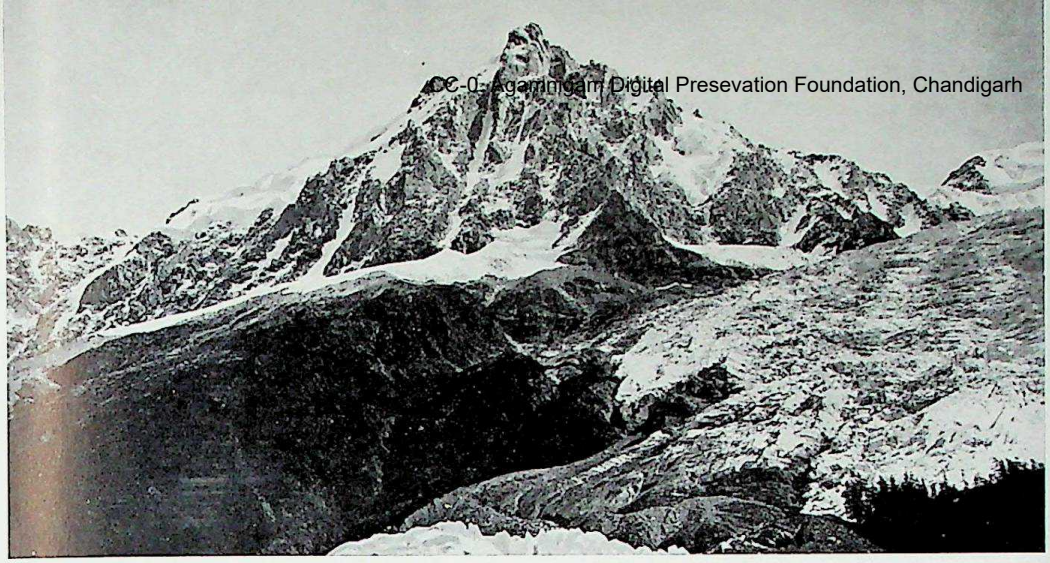

top: Ascension of Mont Blanc.
middle: The Range of Mont Blanc.
bottom: View of the "Garden" from Mont Blanc.

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ROGER FENTON
Wet-plate photographs of the Crimean War, 1855.
above: The Fort at the Entrance to Balaclava Harbor.
upper right: Graves of Crimean War dead.
right: A "Cantinière" in the Crimean War.
All, courtesy George Eastman House.

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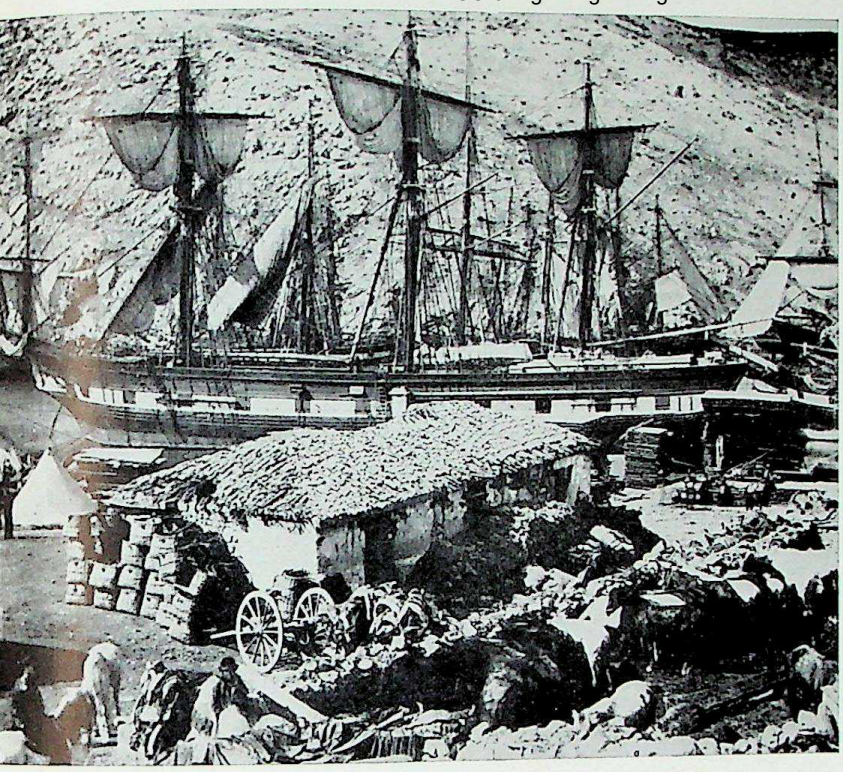

FENTON. *Wet-plate photographs, 1855.*
left: Balaclava Harbor during the Crimean War.
opposite page: Portrait Group of Crimean War Officers.
Both, courtesy George Eastman House.

BEATO. *Wet-plate photographs, 1857–58. Taken during Indian Mutiny.*
above: The Fish Boat and the King's Yacht on River Jumna.
right: Destroyed Barrack of General Sir Hugh Wheeler.
Both, courtesy George Eastman House.

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WILLIAM NOTMAN
Four photographs of the early 1860's. Montreal, Canada.
right: Colonel Rhodes' Indian Boy.
below: Trapping the Carcajou.
opposite page, above: Moose Hunting.
opposite page, below: The Hunters' Camp.
Courtesy George Eastman House.

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9. Hesler: Chicago Pioneer

Alexander Hesler, a pioneer photographer of Chicago, was considered in the 1850s "one of America's greatest daguerreotypists." In 1851 he was photographing the frontier on the upper Mississippi in the Minnesota Territory where he took full-size daguerreotype plates of the Falls of St. Anthony, Fort Snelling, and Minnehaha Falls. It was in connection with this last picture, which he exhibited in his Chicago studio two years later, that his early reputation as a sensitive photographer was established nationally. Henry Wadsworth Longfellow, in a letter as well as in an autographed first edition of *Hiawatha* which he sent to Hesler, acknowledged that the daguerreotype of Minnehaha Falls given him by his friend Senator Charles Sumner of Massachusetts was the inspiration for his poem *Hiawatha*. The daguerreotype was bought by the Senator's brother from Hesler either in Chicago or, as one story has it, while they both happened to meet in Minnesota.

In his journal dated June 22, 1854, Longfellow records, "I have at length hit upon a plan for a poem on the American Indian which seems to be the right one and the only. It is to weave together their beautiful traditions into a whole." On June 29 Longfellow decided to call it *Hiawatha*.

What seems possible is that Longfellow had been considering a poem on the Indian for some time and that Hesler's captivating daguerreotype of the poetically named Minnehaha Falls gave him the impetus to begin

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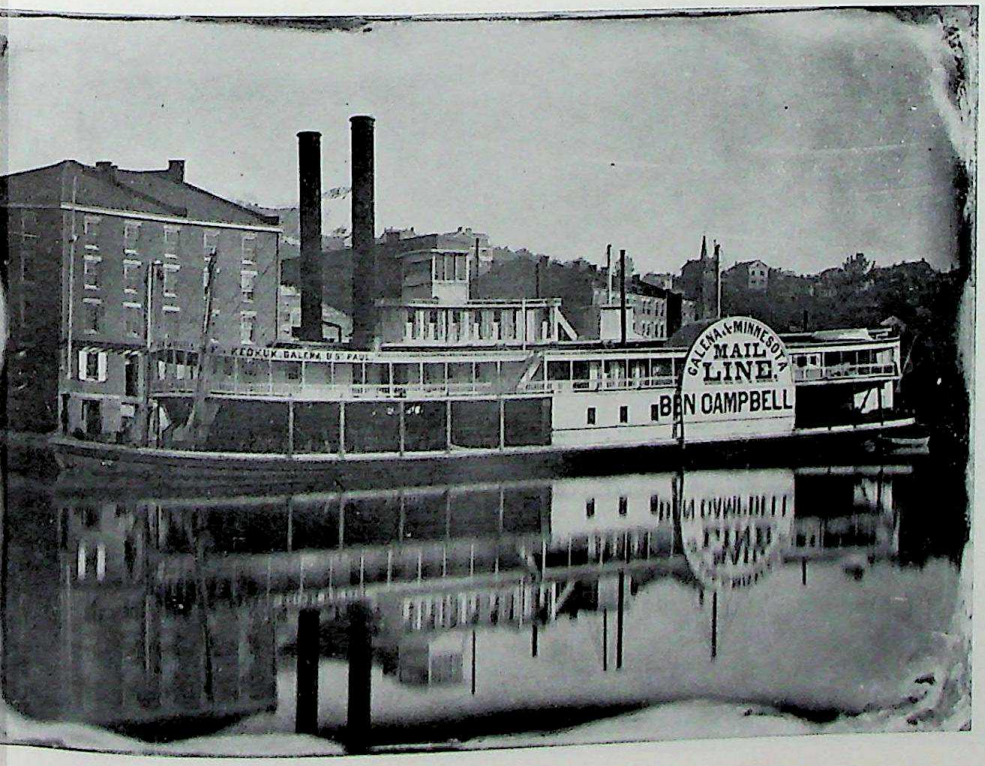
and complete what was to become one of his most celebrated works.

In 1852 the twenty-nine-year-old Hesler was using his daguerreotype apparatus in Galena, Illinois. It had been five years since learning the art in Buffalo, practicing it for a couple of years in Madison, and taking portraits of the Wisconsin legislature in session before his trip to the Minnesota Territory. Though born in Montreal, he was but a boy when his family moved to Racine, Wisconsin, and for the rest of his life (he died in 1895) he was considered a midwestern photographer, conducting studios at various addresses in Chicago. The first of these he established in late 1853 on La Salle Street. He prospered. He opened another. He added a miniature painter to his staff. He learned paper photography, the wet-collodion process, and the stereograph, which enabled him to advertise that he could take any kind of photographic commission from a portrait in miniature to one more than life size.

In 1855 he won an award at the American Institute Annual Fair held in New York. This was the first of many prizes and awards he was subsequently to receive for his photographs, particularly for his portraits of children. He learned child photography by personal experience, for he was the father of eight, four of whom lived to maturity. In 1857 he took the famous ruffled-hair portrait of Abraham Lincoln later used as the frontispiece of the book by Nicolay and Hay. He photographed Lincoln in Springfield and in Chicago. His gallery was a rendezvous for politicians and celebrities. One wet-plate picture he took in 1860 of an unbearded Lincoln was discarded, but fortunately preserved and recently found. It is now in the collection of the Chicago Historical Society and, by their permission, is here reproduced for the first time in any book.

In later years Hesler was to win fame for such photographs as *Picturesque Evanston*, but this was in the days of art photography and carbon prints, which by then had lost the intrinsic beauty and honesty that Hesler had instilled into his early works. His best photographs were taken before the Chicago Fire of 1871. Many of these early efforts survived, but unfortunately the original letter sent by Longfellow is believed to have been burned in the great holocaust.



ALEXANDER HESLER, The Mississippi River Packet, Ben Campbell, Galena, Illinois. *Daguerreotype, 1852. The daguerreotype has been printed in reverse so that the name can be read. The Ben Campbell was built in 1851 and burned the summer of 1860. Courtesy Chicago Historical Society.*

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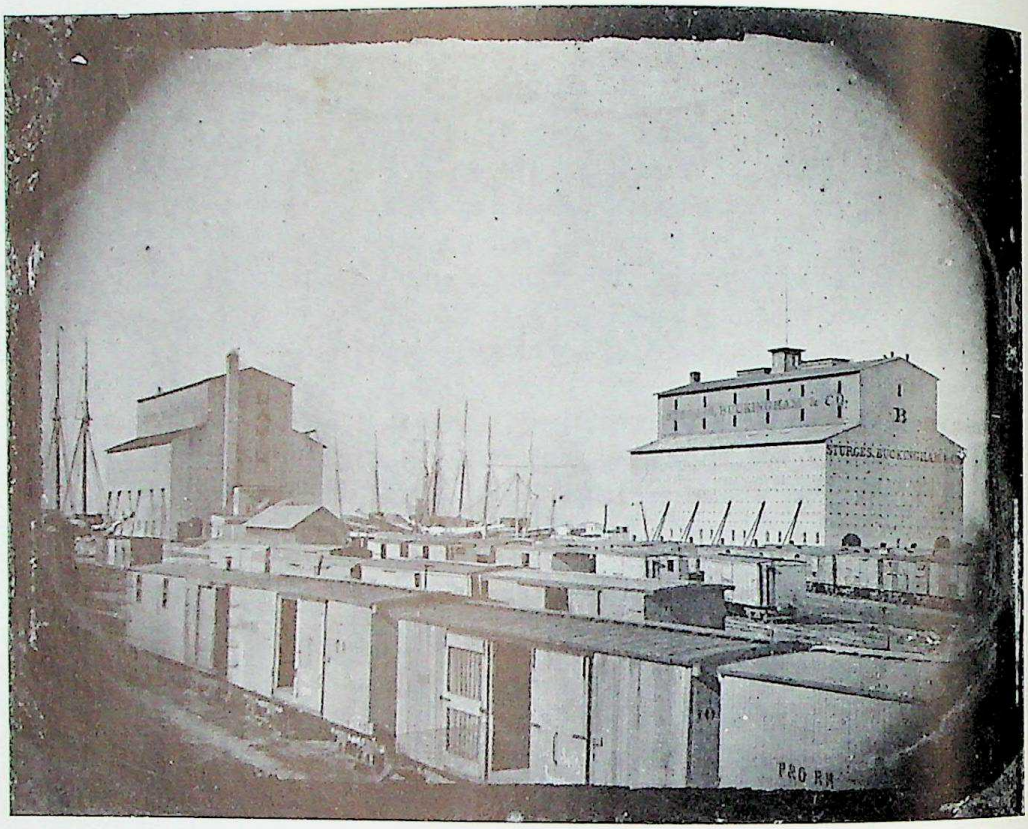

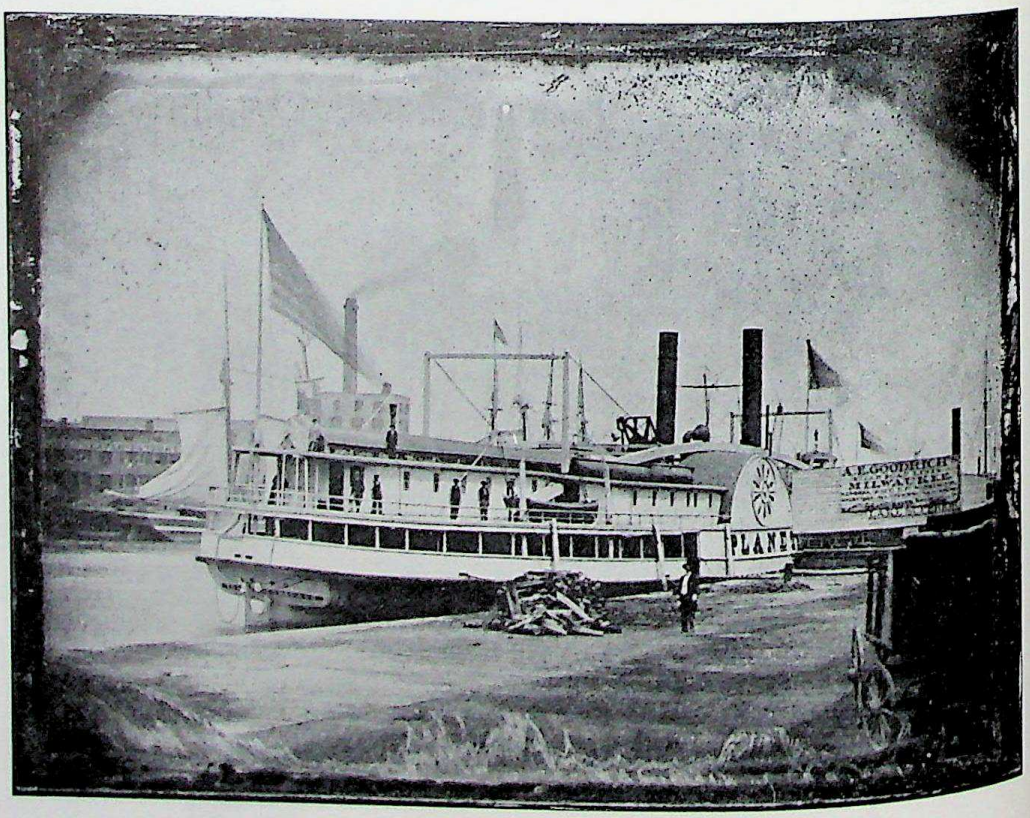

HESLER. *Ambrotypes, 1855-58. right:* Sidewheel Steamboat Planet. *At dock in Chicago River. above:* Grain Elevator and Freight Cars. *At mouth of Chicago River, Chicago, Illinois. Both, courtesy Chicago Historical Society.*

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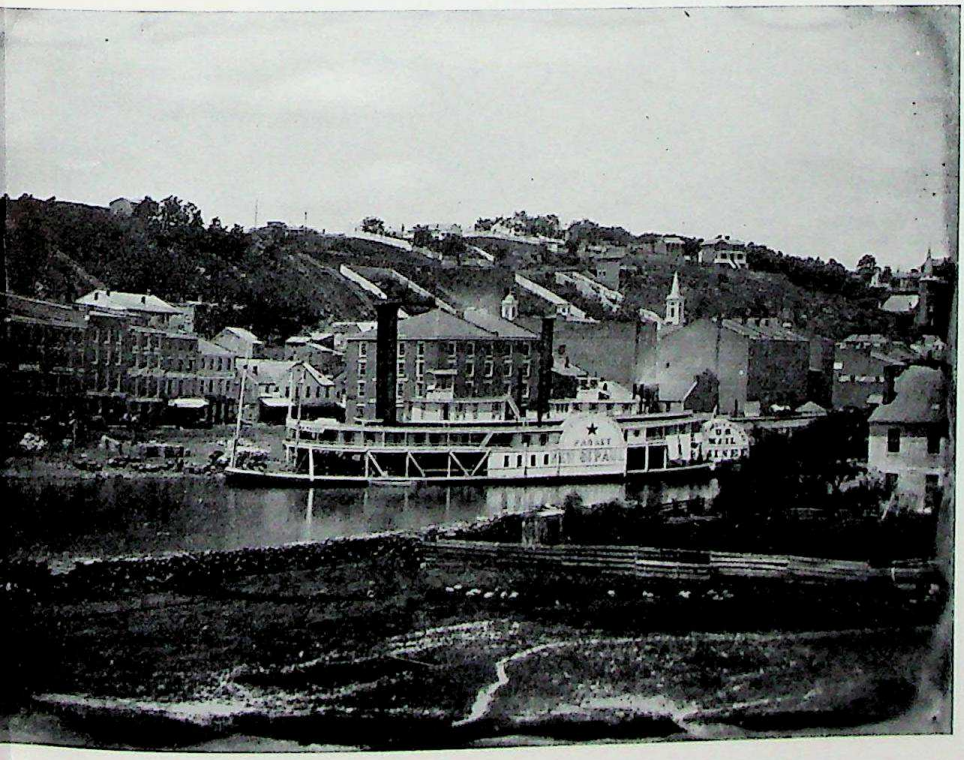

HESLER, *left:* Levee at Galena, Illinois. *Daguerreotype, 1852. The U.S. mail and passenger packet, New St. Paul was built at New Albany, Indiana, in 1852. The packet Nominee, built in 1848, sank in the upper Mississippi in 1854.*
above: Panorama of Chicago. *Wet-plate photographs, about 1858. Two of eleven views forming a complete circular panorama of Chicago, from dome of City Hall and Court House, summer of 1858. All, courtesy Chicago Historical Society.*

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HESLER. *Daguerreotypes, each 2¾ x 3¼ inches, Chicago, about 1854.*
right: Portrait of Ida Hesler.
above: Portrait of the Photographer and His Wife.
Both, courtesy George Eastman House.

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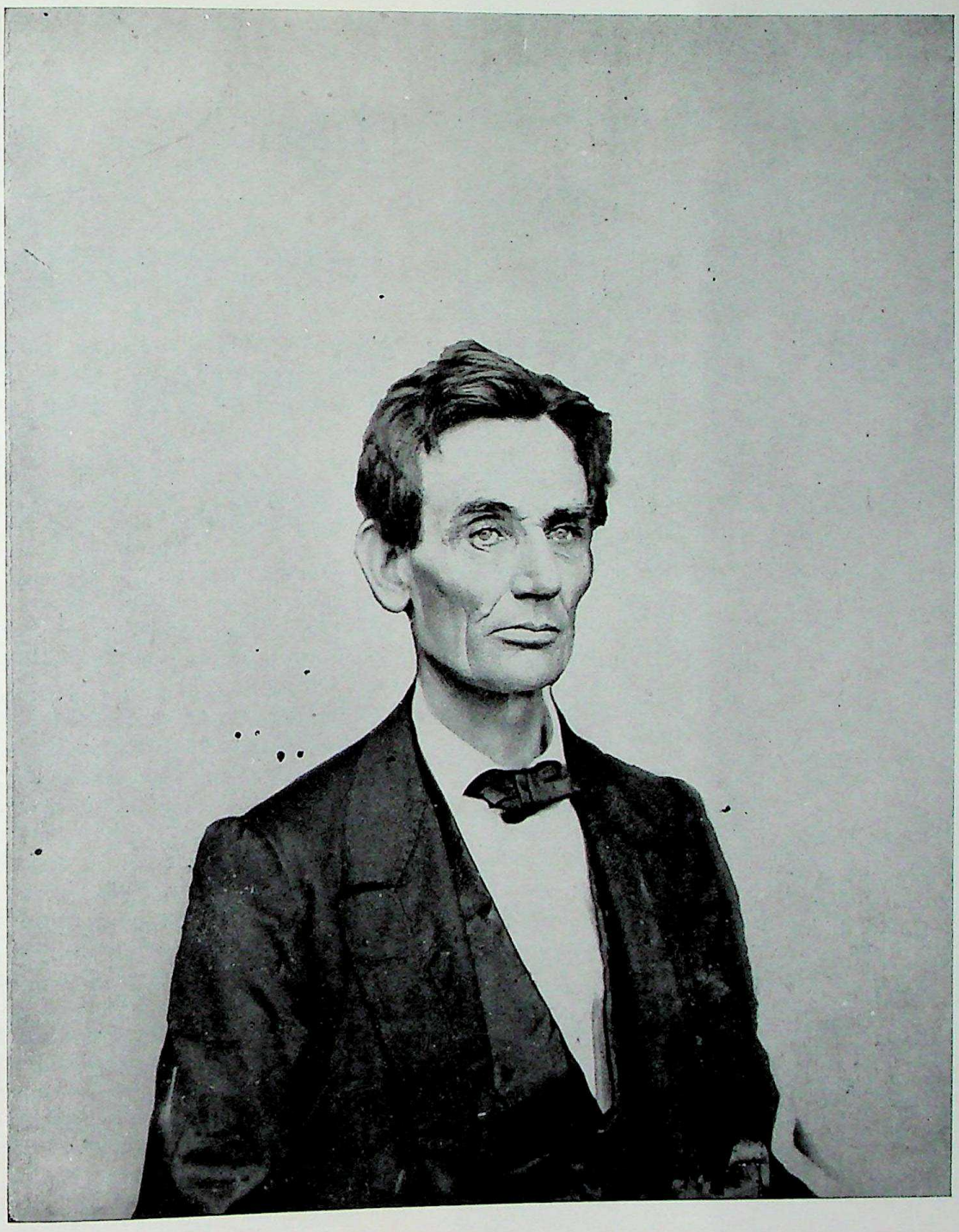

HESLER, Portrait of Abraham Lincoln.
Previously unpublished photograph, Chicago, 1860.
Courtesy Chicago Historical Society.

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10. The Stereoscope: Pictures in Pairs

Sir Charles Wheatstone, in 1838, described the stereoscope, which he had invented in an attempt to re-create mechanically the natural phenomenon of binocular vision. In binocular vision each of our eyes receives a different image. This is important to our perception of depth because, although our brain combines both images into one, that one unified image conveys three-dimensionality and distance as neither of the two flat images could by itself. In a viewing device Sir Charles offered the eyes two flat drawings of solid objects, each in perspective, each as it might have been seen by a different eye, expecting to create the illusion of the third dimension. It worked none too satisfactorily. With the announcement of photography the perfect solution to successful stereoscopy seemed at hand. Fox Talbot made calotypes of still lifes for Sir Charles' invention, when the shiny surfaces of the daguerreotype were found to be unsatisfactory.

It was in 1849 that Sir David Brewster invented a stereoscope with two magnifying lenses separated by 2½ inches, the usual distance between the eyes in human beings; he limited the height to 3 inches, making it easy to handle. Brewster showed a number of pictures including a binocular portrait of his good friend Dr. John Adamson, but could get no English optician or photography house to manufacture and market his stereoscope.

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Jules Duboscq in Paris the following year undertook the construction of Brewster's stereoscope and the preparation of daguerreotypes to fit.

In the Crystal Palace Exhibition of 1851 in London the Duboscq and Soleil (Duboscq's father-in-law) stereoscope was exhibited with a fine collection of daguerreotype stereo images. The stereoscope became tremendously popular when Queen Victoria and Prince Albert admired the display and evinced interest in this new form of photography. Not only did Duboscq and Soleil in Paris manufacture the stereoscope; the demand was met by photographic houses all over Europe and the United States. In Philadelphia J. F. Mascher early in 1853 received a patent for a simple folding stereoscope made of a leather box holding two images and two lenses. More than a million prism stereoscopes of the Brewster type were sold by 1856 in England alone. The London Stereoscope Company, which offered a wide selection of stereo slides to choose from at about a quarter each, advertised, "No home without a stereoscope," and offered a viewer for sale at less than a dollar.

Sir David Brewster, by 1849, had also invented the binocular camera but had not had it produced. Until 1853 either an ordinary camera set in a groove moved sideways for the second exposure or two single cameras were used to make stereo pictures. The two-lens camera with the lenses separated by 2½ inches taking two small pictures simultaneously was produced in 1853 by an English optician who was followed immediately by many European manufacturers.

Duboscq and Soleil took stereoscopic daguerreotypes with their new camera, among them a still life of optical equipment consisting of an hourglass, binoculars, lens, telescope, globe, planetary system, telegraph instrument, an alphabet in the round and, in the lower right-hand corner, their Brewster stereoscope.

In 1855 Warren Thompson, an American, had already been in Paris at least six years while working in photography. He had received an award in 1849 at the exhibition held at the Academy of Sciences and in 1851 his daguerreotype of an eclipse of the sun had been officially praised. Using the new binocular camera in 1855 he made a series of stereoscopic daguerreotypes of which three magnificent, penetrating portraits survive: a lady china painter, a hunter with flower in buttonhole holding a dead hare, and a pensive man with head in hand.

By 1860 the London Stereographic Company slogan was practically a reality; few homes were without a stereoscope and a batch of slides. Hundreds of thousands of stereographic slides depicting nearly every corner of the globe were available in shops or by mail at the nominal prices of today's picture postcards ranging from a nickel to a quarter. The studio of John Mayall continued to prosper by offering for sale cartes-de-visite of Queen Victoria and Prince Albert.

Oliver Wendell Holmes was entranced with the travel pictures. The details, evoking the illusion of reality, enabled him, he said, to be "a spectator to the best views the world had to offer." He wrote three articles in two years for the *Atlantic Monthly*, the first in 1859 entitled "The Stereoscope and the Stereograph,"—the latter word coined to describe the stereopicture. Holmes urged his readers to travel with him, by stereoscope and the imagination, to the remotest parts of the world "to view the wonders of the Nile, the ruins of Baalbeck, Ann Hathaway's cottage, the rawest Western settlement and the Shanties of Pike's Peak" (photographers with their stereoscope cameras had penetrated the frontier for photography supply houses in the East). Holmes then called attention to such a universal thing as a clothesline, which appears in pictures taken all over the world, and he writes, "The very things which an artist would leave out or render imperfectly, the photographer takes infinite care with and so makes its illusions perfect."

Holmes predicted that the stereoscope would be used to record "the next European War" and that the time would come when there would be "imperial, national and city stereographic libraries," and operation of exchange depots for slides, and he concludes, "we are looking into stereoscopes as pretty toys . . . but before another generation has passed away, it will be recognized that a new epoch in the history of human progress dates from the time when 'He Who never but in uncreated light, Dwelt from eternity . . . Took a pencil of fire from the hand of the angel standing in the sun and placed it in the hand of a mortal'."

Holmes by 1861 said that he had viewed a hundred thousand slides and it took only twenty-five to give one a headache. He designed and made a more practical stereoscope instrument, a hand viewer consisting of a light, portable horizontal board slotted to receive the stereograph slides and a small handle below to hold the device up to the eyes. Some few small modifications were made in the history of the stereoscope—such as the sliding carrier—but the basic design for the most practical stereoscope Holmes gave to the world.

E. & H. T. Anthony Company of New York and Langenheim Brothers of Philadelphia commissioned photographers to take not only views but pictures of events of the day, which they then sold along with those

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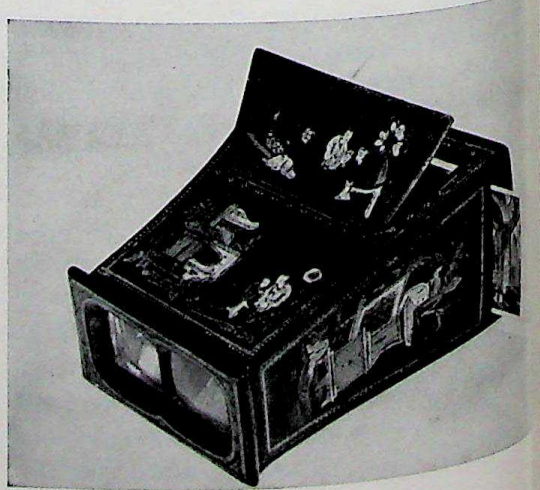
they imported from Europe. Untold numbers were bought. Holmes's suggestion to develop public stereo libraries was never acted on. It is in our generation that these stereoscopic cards are considered of historic importance and are now being collected.

Interest in the stereoscope went through several waves. The first popularity of the later fifties was superseded by the *carte de visite*, a fabulous fashion of the sixties. In the next two decades it was again revived for several years. The Holmes stereoscope was now made of aluminum and, again after the turn of the century until World War I, the stereo was popular at various times. All photographic processes as they developed were turned to the making of stereographs. This is true today, with the foolproof special stereo cameras, electric viewers, and the latest of fast color film.

EDWARD ANTHONY, Broadway, New York. *Stereograph card, 1859. From the series: "Anthony's Instantaneous Views." Courtesy George Eastman House.*



right: A fancy Brewster-type stereoscope, made in England about 1850. The lid was opened to view stereos on metal plates. The bottom was opened and the top lid closed to view stereo transparencies on glass; the stereoscope was then held up to the light. center: Daguerreotype case with lenses for viewing stereo pair. Patented by Stull, Philadelphia, 1855. Both, courtesy George Eastman House. far right: Folding pocket stereoscope, 1853, made in England by W. E. Kilburn. J. F. Mascher, Philadelphia, patented the identical construction early in 1853. Courtesy Gernsheim Collection, London.

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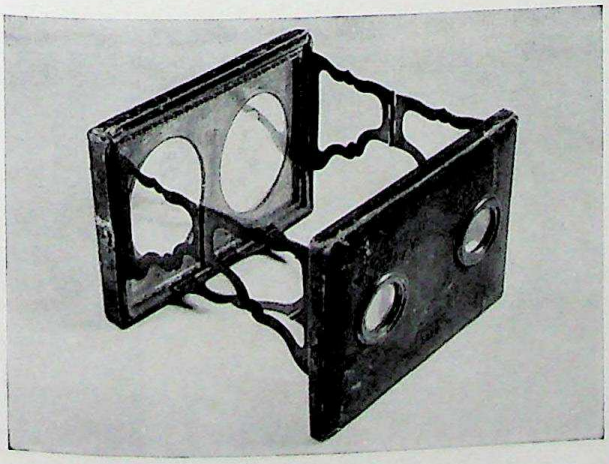
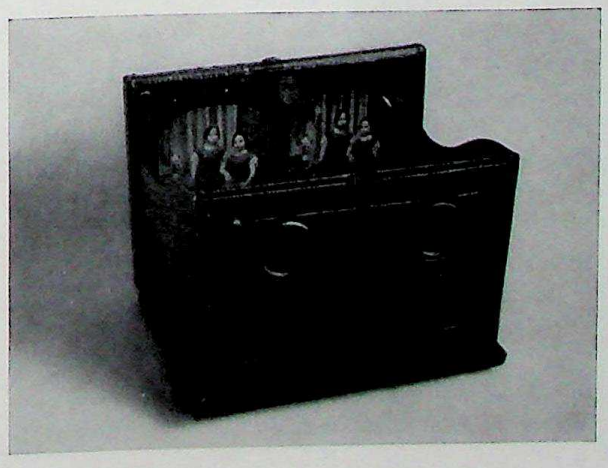
FERRIER AND SULIER, Paris Boulevard. *Detail of one part of a positive stereographic pair on glass, 1860. An extraordinary early instantaneous photograph. Courtesy George Eastman House.*





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STAFF CAMERAMAN, E. & H. T. ANTHONY,
View of Broadway, New York.
One part of a stereographic pair, about 1860.
Collection of Dr. G. L. Howe, Rochester.
Courtesy George Eastman House.

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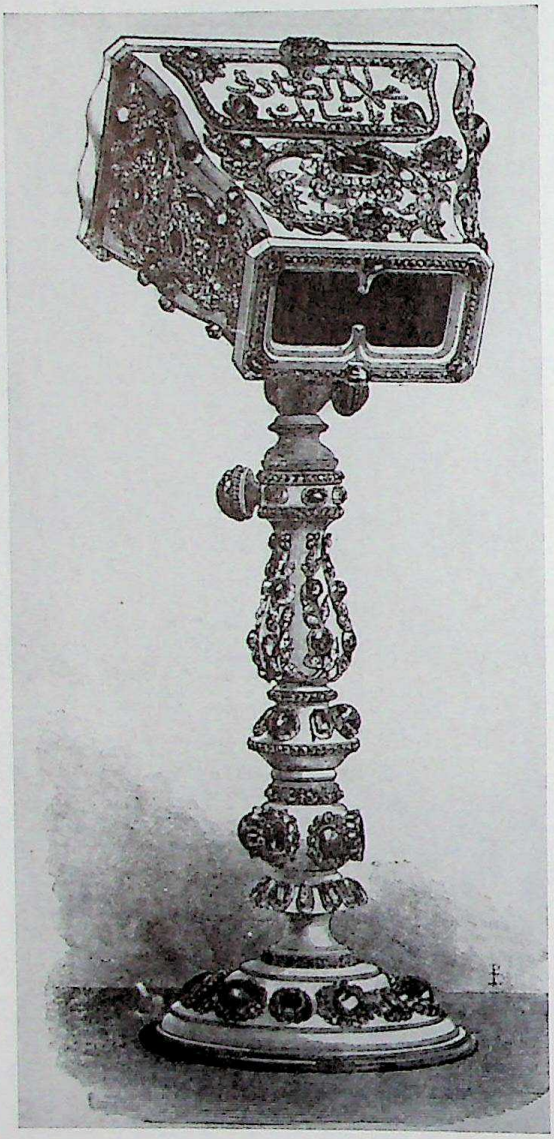

A jeweled stereoscope with Arabic inscription set in lid, made by Emmanuel London, 1862. Courtesy Gernsheim Collection.

right: Oliver Wendell Holmes. *Wet-plate photograph, 1863. Photographer unknown. Courtesy George Eastman House.*
far right: The Holmes stereoscope, manufactured by Joseph L. Bates, Boston, 1865. Courtesy Beaumont Newhall, Rochester.

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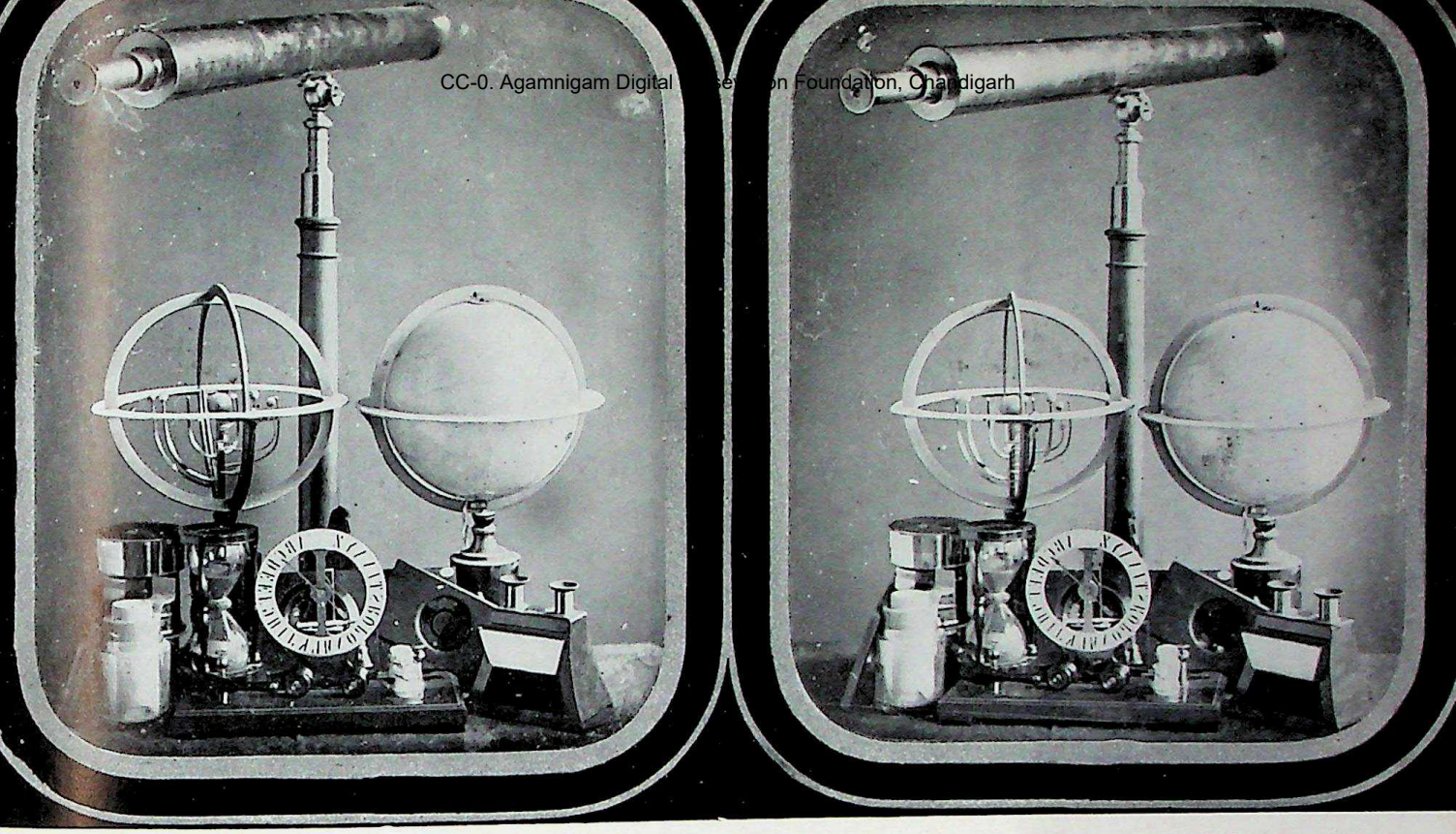
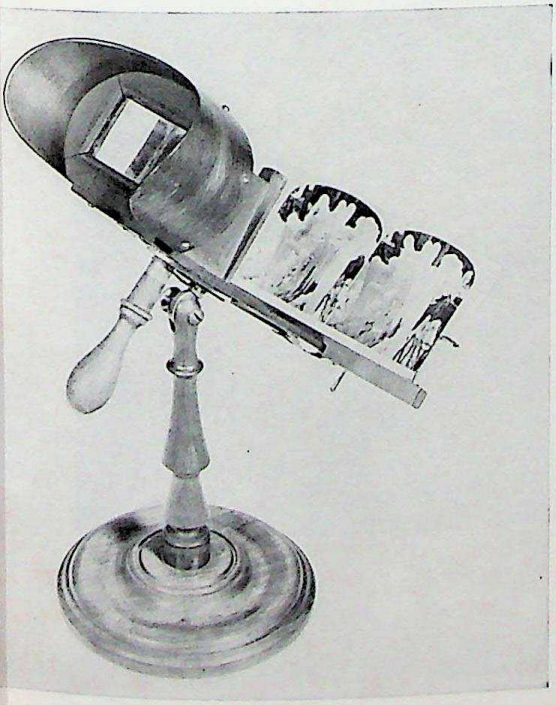


Stereoscopic daguerreotype made by Duboscq and Soleil, Paris optical firm that first manufactured and marketed the stereoscope invented by Sir David Brewster (one is shown in lower right corner). Their product, purchased by Queen Victoria at London Crystal Palace 1851, started world-wide interest in stereophotography. Courtesy George Eastman House.



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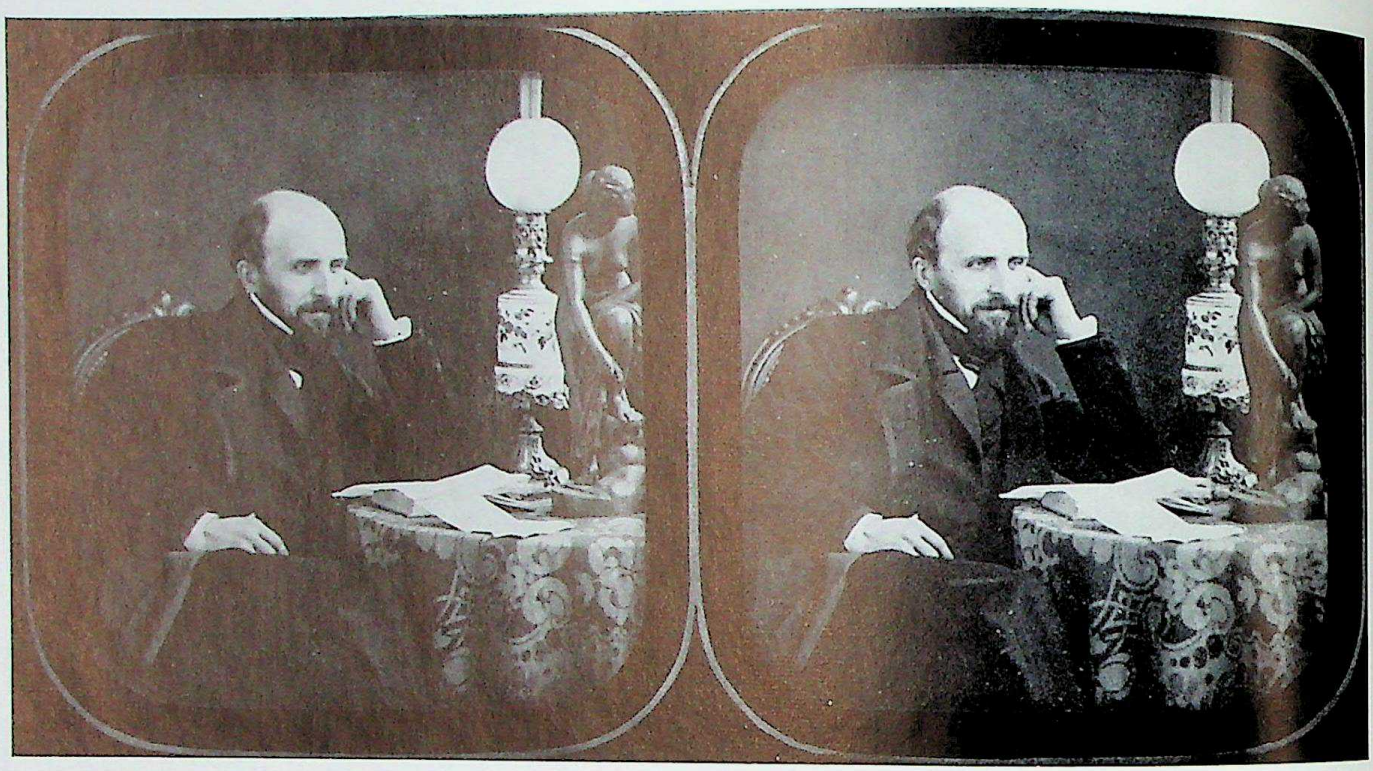

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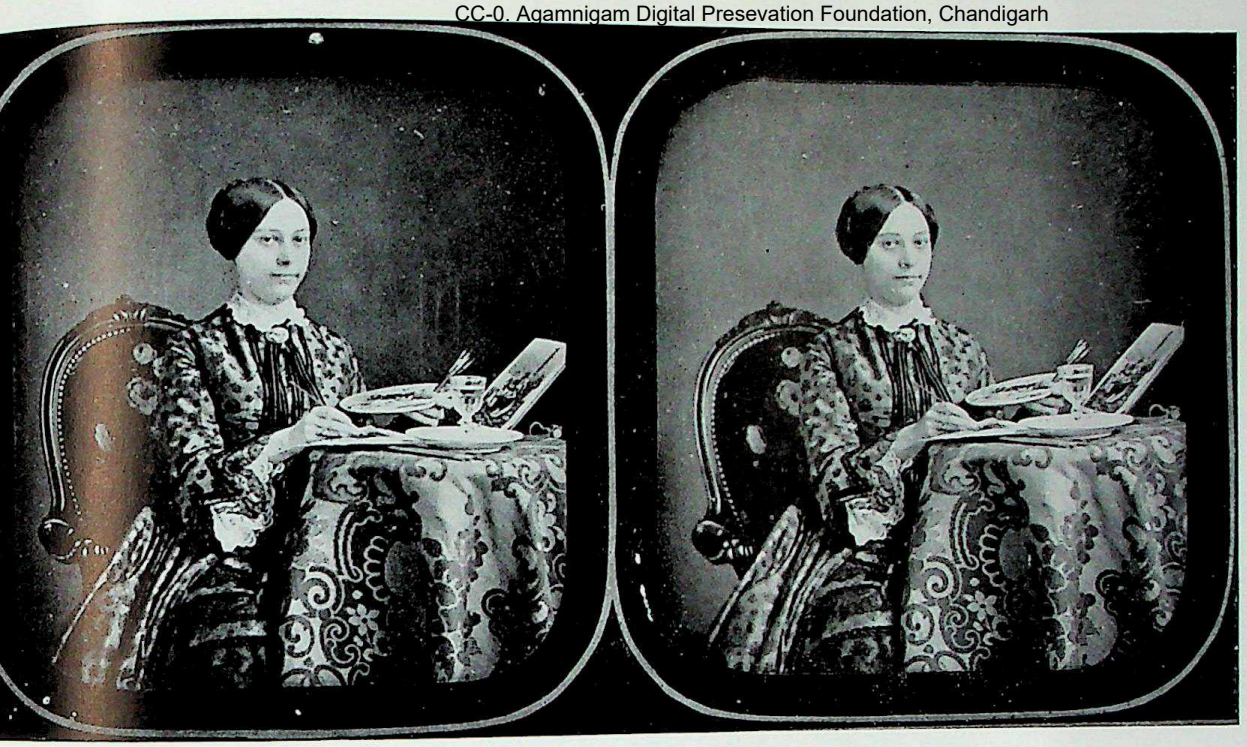
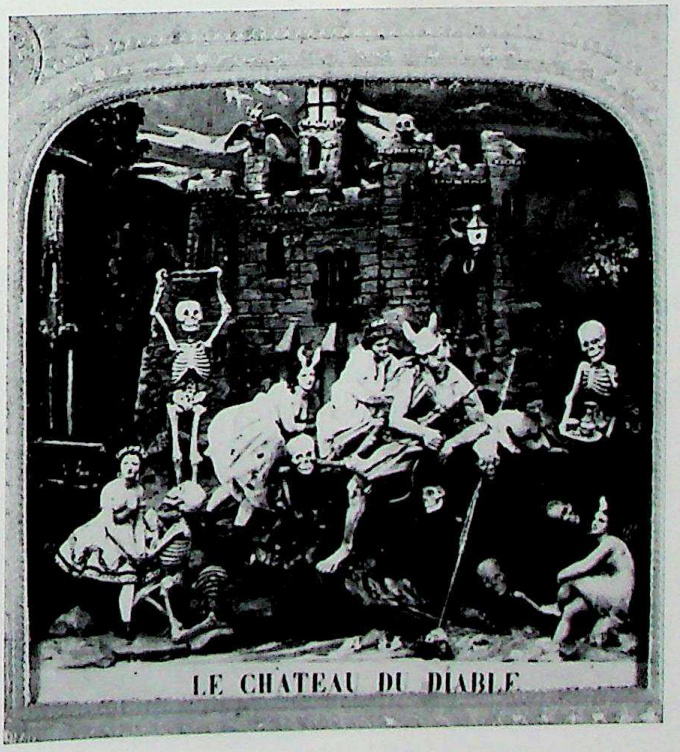


WARREN THOMPSON, *American. Three stereoscopic daguerreotypes, Paris, 1855.*
above: Lady China Painter.
opposite page, top: Pensive Man.
opposite page, below: The Hunter Who Brought His Props.
Courtesy George Eastman House.



One part of a comic stereographic pair. About 1860, France. Photographer unknown. Courtesy George Eastman House.

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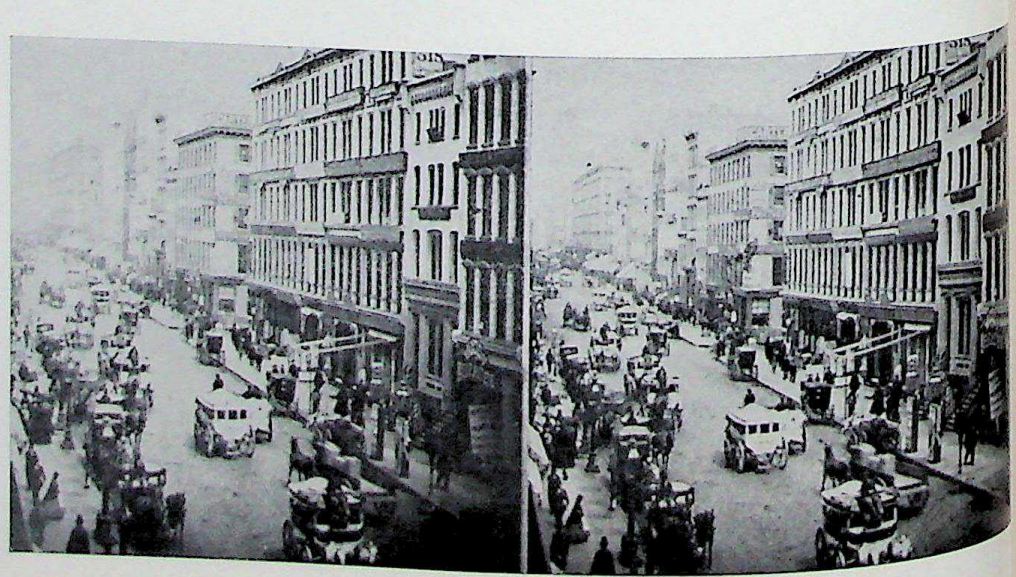

ANTHONY. *Stereograph, 1859-70.*
From the series:
"Anthony's Instantaneous Views."
top: Fourth of July Regatta, New York.
center: Fourth of July Regatta,
Preparing for the Start.
Both, collection Dr. G. L. Howe,
Rochester, and courtesy
George Eastman House.
bottom: Looking up Broadway
from the Corner of Broome Street.
Courtesy Museum of
the City of New York.

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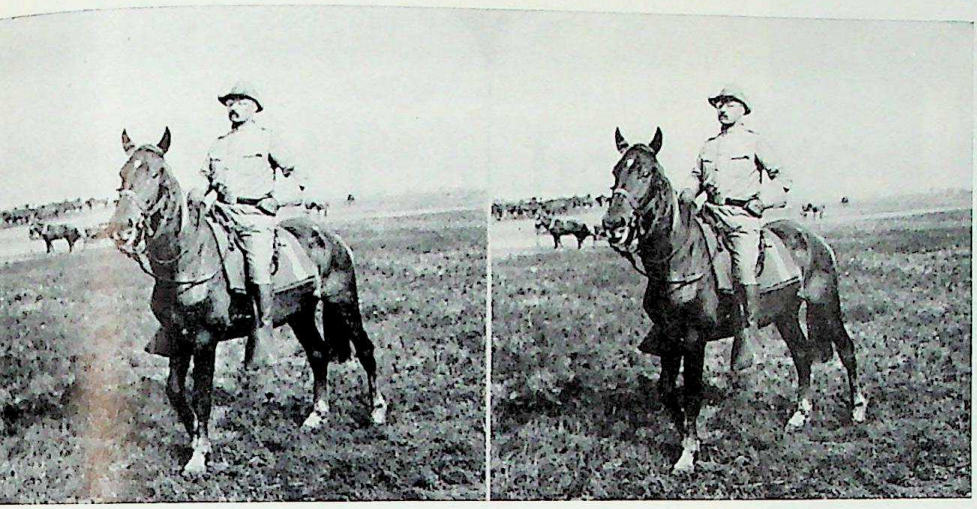

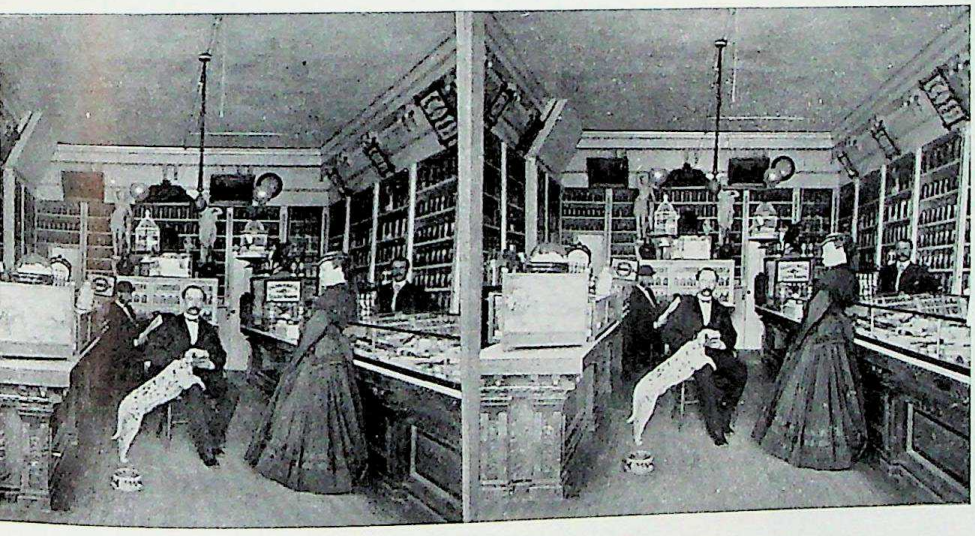

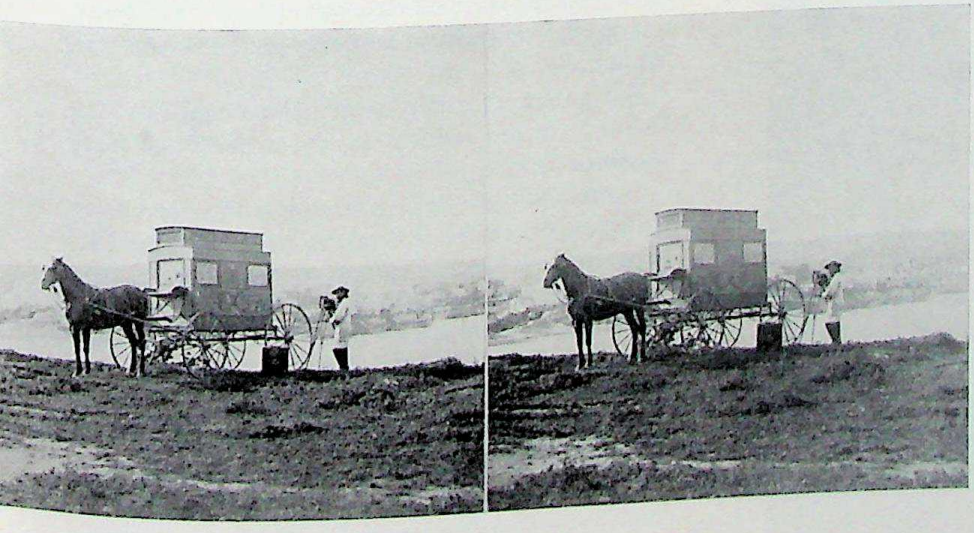

top: UNDERWOOD AND UNDERWOOD, *publishers,* Colonel Theodore Roosevelt of the Rough Riders. *Stereograph, about 1898. Photographer unknown. Courtesy George Eastman House. center:* Interior of C. A. Marsh's Drugstore, 3d Avenue at 125th Street, New York City. *Stereoscope, 1865. Photographer unknown. Courtesy Museum of the City of New York. bottom:* W. E. Bowman of Ottawa, Illinois, and his Photographic Wagon. *About 1870. Collection Dr. G. L. Howe. Courtesy George Eastman House.*

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11.

Nadar: The "Titian of Photography"

MANY PAINTERS, printmakers, and sculptors in France reacted violently against photography and its incredible popularity. Condemnations were showered upon it in press articles and caricatures. Not only had it become an economic threat to the artist; its claims as an art form were resented.

Baudelaire in the *Revue Française*, 1859, wrote "We must see that photography is again confined to its sole task, which consists in being the servant of science and art, but the very humble servant like typography and stenography which have neither created nor improved literature."

What a far cry from the triumphant shriek of Paul Delaroche on first seeing a daguerreotype, "From today painting is dead!"

The camera was a threat. The purpose of art was being changed by the public's demands for more exact likenesses, more perfect rendition of detail. The camera supplied the people with what they wanted.

Good artists domesticated the camera. Corot said that the lens made him view nature differently. He used the new technique, combining it with his work in the graphic arts to create a new kind of print, the *cliché verre*. He covered a sheet of glass either with black paint or with albumen, which he exposed to sunlight to make opaque. With a stylus he then scratched a design on the coated

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surface of the glass and used the finished state as a negative. He then printed an entire edition on sensitized photographic paper, respecting the finished product as he would his etchings. The *cliché-verre* process was practiced also by Delacroix, Daubigny, Rousseau, Millet, and others, but Corot seems to have been more attuned to the process than the others; he finished his sixty-sixth plate on his seventy-eighth birthday, though none were sold during his lifetime.

It was the unimaginative artists, who painted the superficial appearances of things rather than their emotional responses and interpretations of nature, who found in the camera a crutch and aid, often abandoning pencil and brush for the heavily detailed pictures they could make with chemicals and lens. These inept artists left little memorable work in either medium.

Too few good artists turned to photography and used it creatively. Those who did are remembered as artists with the camera. "Nadar," pseudonym for Gaspard Felix Tournachon, was such an artist. Daumier caricatured photography in his lithographs, ridiculing it as spiritless and satirizing the *bourgeoisie* for their attitude toward the new invention. Nadar, however, he respected as a man and as an artist, for, despite the mechanical quality of the camera, Nadar concentrated on face and gesture and emphasized the psychological characteristics of his subjects. He made the pose express the character of a subject as much as did the face, and he made every salient feature of body and face stand out by permitting no props or backgrounds to interfere with the person.

How extraordinary were the photographs of Nadar is attested by the fact that the great French classicist painter, Ingres, sent to Nadar every person whose likeness he wanted. According to Ingres's biographer, E. de Mirecourt, Ingres painted his remarkable portraits from these photographs without having a need for the subject to be present. Artists called Nadar "the Titian of Photography."

Nadar came to the camera by way of the theatre; he was a playwright. As an artist he was a well-respected painter of portraits. As a journalist he worked with Daumier as a caricaturist for *Charivari*. At the age of thirty, in 1850, Nadar was the darling of the boulevards, celebrated for his wit; but neither theatre, salon, nor journal offered him sufficient livelihood. Though prejudiced against photography, like most artists, he joined his brother Adrien's studio in 1852, but the partnership soon ended in the law courts. In 1854 Nadar published *Le Panthéon Nadar*, a huge lithograph composed of 280 caricatures; this was the first in a proposed set of four. He had hit upon the same idea as had David Octavius Hill: to photograph his subjects before drawing their caricatures. Nadar's great portraits of the literati and the celebrated appeared not as caricatures but as perfect reproductions of his original photographs, in the expressive volumes of *Galerie de Contemporain*.

Nadar opened his own photography studio on the Boulevard des Capucines. Writers, artists, and composers of note found the atmosphere so cordial that they met there regularly. Nadar photographed them all: Manet, Corot, Dumas, Monet, Baudelaire, Georges Sand, Delacroix, Sarah Bernhardt, Daumier, Doré, Berlioz, Wagner, and an uncountable number of others. He invariably signed his prints, as an artist would his etchings or lithographs.

It was the realistic, sharply delineated daguerreotype of an earlier day that he emulated rather than the work of later photographers who were striving for the fuzzy, hazy effects dear to the Impressionists. The Impressionist painters were as much obsessed with sunlight and the out-of-doors as the most enthusiastic photographer. The solid objects occupying seen reality the painters transformed with their palette of misty color into a hazy, created unreality of shimmering beauty. The public rejected their work, as did the academic painters and their coterie of critics.

Nadar turned over his studio for the first Impressionist Exhibition in 1874. It took daring and courage to flaunt the official Salon and the press, but this action was typical of the Radical Republican, Nadar, who fifteen years earlier had refused to follow Napoleon III with his balloon photography because he had not believed in the Emperor's campaign against Austria.

Nadar was the first aerial photographer, taking pictures successfully from a balloon in 1856. His first efforts failed, for the gas seeping out of the balloon caked the collodion on his plates. Nadar had to coat and develop the wet-collodion plates, crouching in a little darkroom set up in the swinging, lurching basket of the balloon. He took a dozen views of Paris. In 1863 he built the world's largest balloon, which measured 90 feet in diameter and was named "The Giant." He tried to initiate aerial passenger service within France, but on its second ascent The Giant lost control and came down in Germany; the passengers were dragged for miles before the basket caught and held.

The siege of Paris was an ideal opportunity for Nadar and aerial photography to play an important role. On September 18, 1870, the capital was left without any means of communication with the outside world.

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Through Nadar's instigation the balloon Neptune was aloft within less than a week. Prussian guns could not reach the heights at which the balloon soared. During the 131-day siege, fifty-five balloons left Paris with passengers, mail, and carrier pigeons. The birds returned with microscopically photographed messages on thin collodion film—a special process conceived by M. Dagron —rolled into minute tubes and affixed to their tails. When the pigeons arrived in their Paris dovecots, the cylinders were opened and the film was placed between two sheets of glass and projected onto a screen. This process of enlarging a picture by projection worked on the same principle as the eighteenth century's magic lantern. The carrier pigeon–balloon post kept Paris in contact with the world all during the siege.

Nadar was also one of the first photographers to take pictures with artificial light. He took electric-light photographs of the catacombs and sewers of Paris in about 20-minute exposures as early as 1860.

Nadar lived to be ninety years old, dying in 1910. Thirty years earlier he turned over his studio to his son Paul, who continued to use his father's pseudonym and made it officially his own. Together they created for *Le Journal Illustré* a feature which has since become standard in photojournalism. Paul, acting as cameraman with a stenographer to record the ensuing conversation verbatim and with Nadar as questioner, interviewed the French scientist Marie Eugène Chevreul on the eve of his 101st birthday in 1886. The photographs showed the enthusiastic response of the aged man to Nadar's queries on "The Art of Living." The stenographer's notes served as captions for the original pictures.

A. GREVIN, Nadar the Great. *Wood engraving, about 1870. Friend of artists,* boulevardier, *popular with the many who came to his studio for portraits, Nadar was a subject for cartoons and caricatures in the press of his day. Courtesy George Eastman House, Rochester.*

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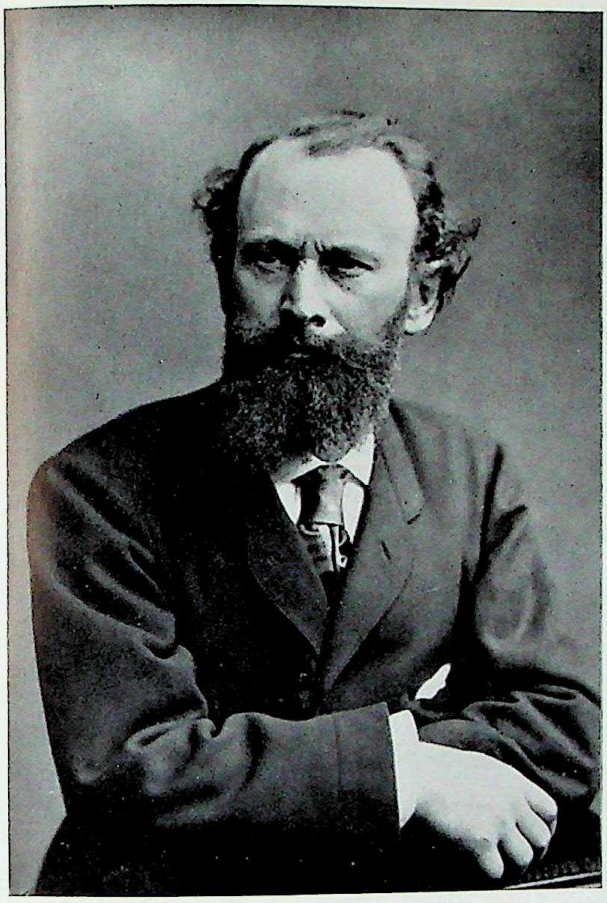

NADAR, Portrait of Edouard Manet. *After a Woodbury reproduction of a wet-plate photograph. Nadar's real name was Gaspard Félix Tournachon. A contemporary said to him: "Your name isn't Tournachon—it's 'tour-nadar.' You stick in a stiletto and turn it." Tournachon liked the word, and took its latter half for a pseudonym. From Nadar,* Galerie contemporaine, *1870.*

NADAR, Portrait of Sarah Bernhardt. 1859. *Both photos this page, courtesy George Eastman House.*

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NADAR. *Four photographs, all courtesy George Eastman House.* Portrait of George Sand. *After a Woodburytype reproduction of a wet-plate photograph. From* Galerie contemporaine, *1870.*

Portrait of Charles de Lesseps. *Wet-plate photograph, 1860.*

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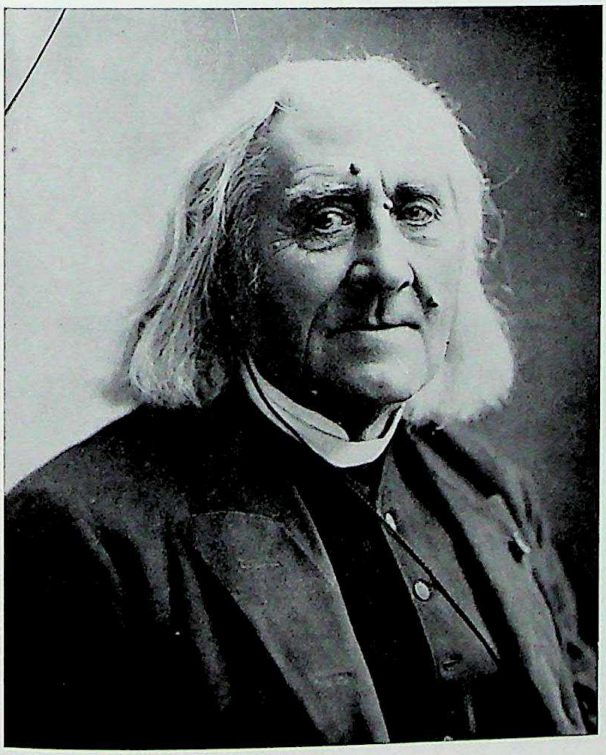

Portrait of Franz Liszt, *1886*.

Portrait of Alexander Dumas.
After a Woodburytype reproduction of a wet-plate photograph.
From Galerie contemporaine, *1870*.

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COROT, Le Petit Berger. *Negative and positive of* cliché verre, *about 1858. One of the sixty-six he made in this medium. Glass was coated with paint or albumen; the drawing was scratched in with a stylus; the design formed in the emulsion was used as a negative; an entire edition was then printed on photographic paper. Courtesy Metropolitan Museum of Art, New York.*

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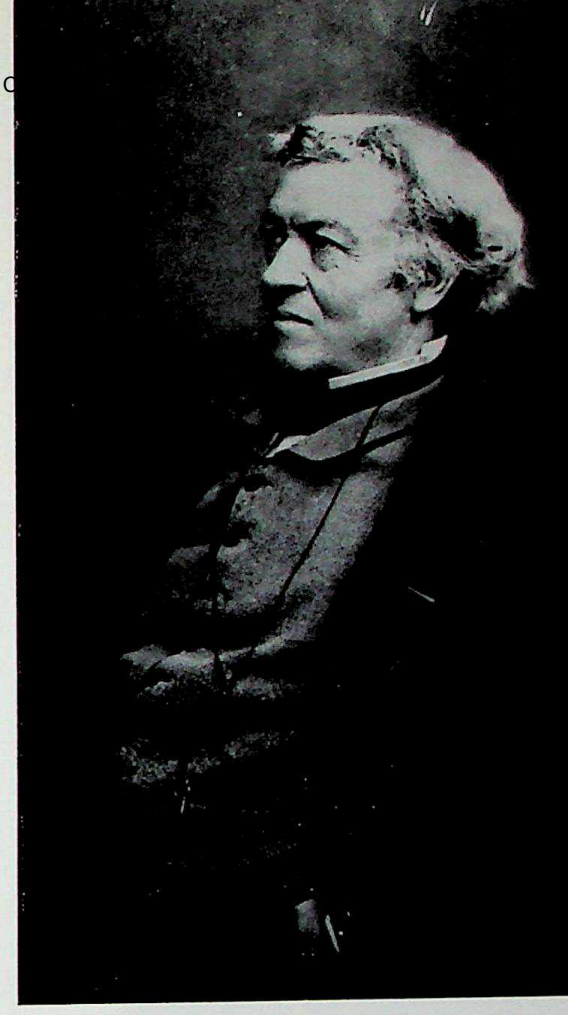

NADAR, Portrait of Jean-Baptiste Camille Corot. *Wet-plate photograph, about 1860. Courtesy George Eastman House.*

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NADAR élevant la Photographie à la hauteur de l'Art

HONORE DAUMIER, Nadar Elevating Photography to a High Art. *Lithograph, May, 1862. Shows Nadar as an aerial photographer, and suggests how free Nadar was from the usual earthbound photography studios spreading all over Paris. Nadar did not take his pictures from a tripod as shown; he either attached the camera to the side of the basket or put the lens through the bottom.*

NADAR, Portrait of Honoré Daumier. *1877. After a Woodburytype reproduction of wet-plate photograph. From* Galerie contemporaine. *Both photos this page courtesy George Eastman House.*

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NADAR, Aerial View of Paris. *Print from wet-plate negative, 1859. Taken from the swinging basket of a balloon over Paris. Courtesy Gernsheim Collection, London.*

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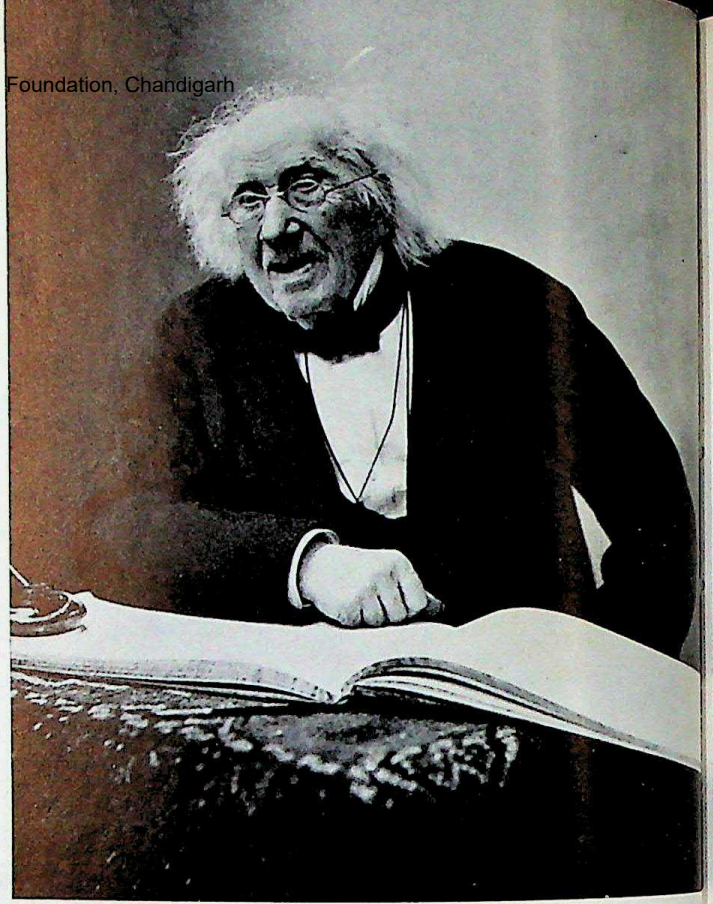
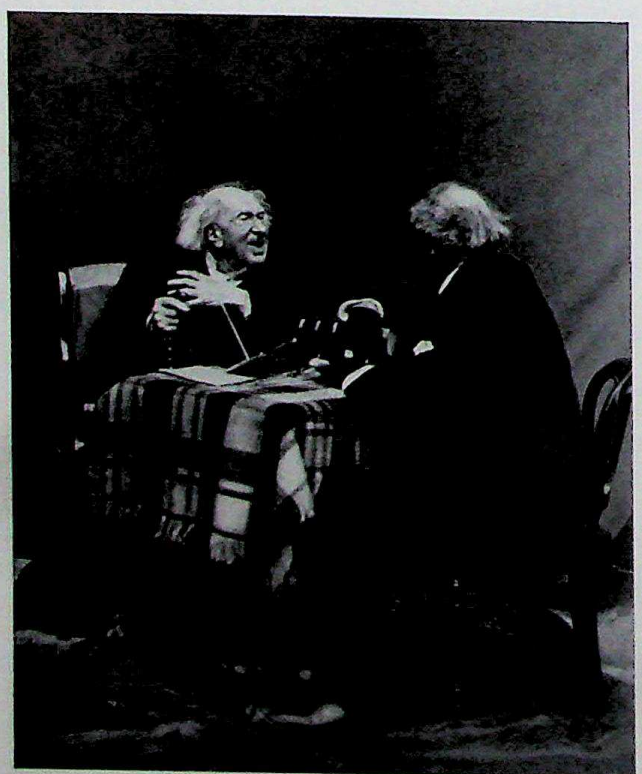
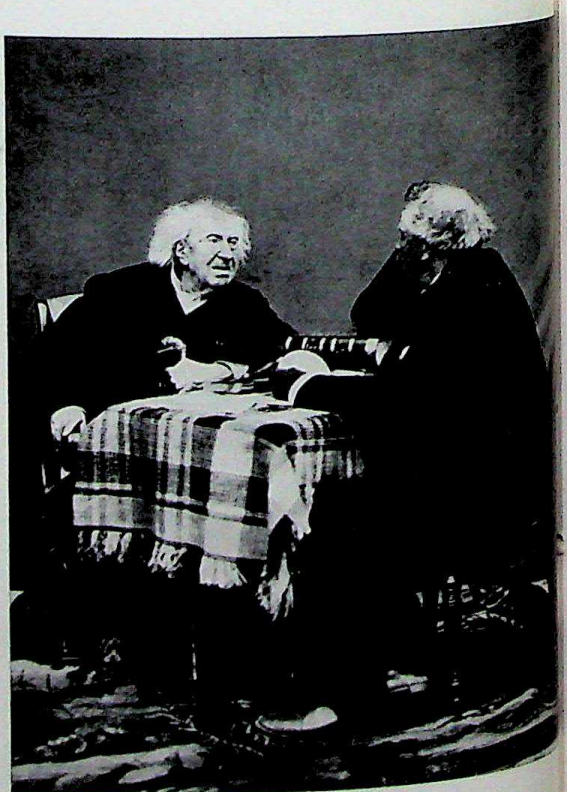


PAUL NADAR, M. Chevreul. *Wet-plate photographs, 1886. The first photo interview. M. Chevreul, on the eve of his 100th birthday, talks with Nadar on "the art of living a hundred years." Courtesy George Eastman House.*





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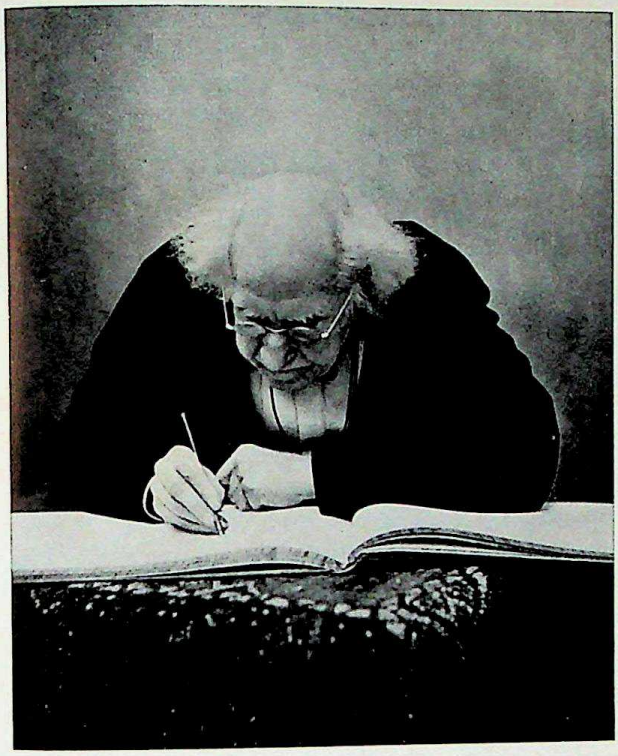

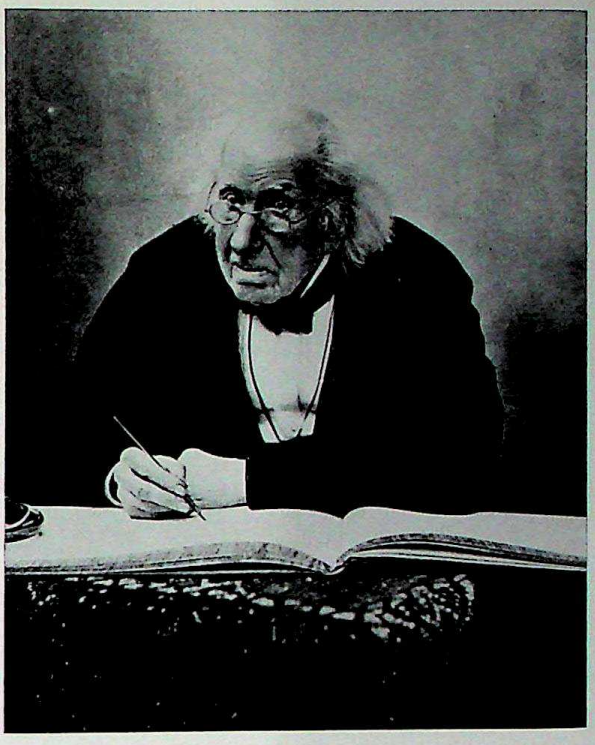

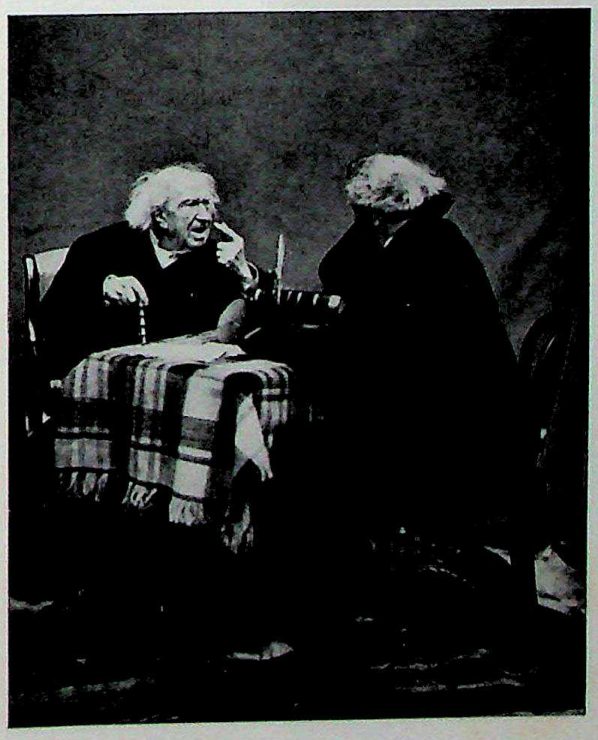

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12. The Ubiquitous Carte-de-Visite

The career of Etienne Carjat (1828–1906) ran strangely parallel with Nadar's. Carjat was also an artist, a caricaturist, and a writer as well as the editor of the journal *Le Boulevard*, which flourished for several years in the 1860s. In 1862 Daumier's caricature of Nadar taking aerial views of Paris from a balloon appeared in Carjat's publication.

Carjat ran a photostudio as a hobby, taking time from his other interests to photograph celebrities—famous men and women he met in his role as editor and distinguished people who were his personal friends. Like Nadar, he attracted people in all walks of life through the warmth of his personality. Unlike Nadar, he had no assistants in his studio. He therefore produced fewer portraits, but many of these are considered finer expressions of the sitter's character than any others.

Another figure who enjoyed a considerable reputation in the Second Empire as photographer and sculptor was Adam-Salomon (1811–1881). Photography was part-time work with him also; he used the camera for extra income and always charged the highest prices. His photographs were remarkable for their lighting, which he used to model the planes of the face, creating deep shadows and highlighted ridges to echo the effect of modeling in clay.

Adam-Salomon also made photographs that deliber-

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ately resembled seventeenth-century Dutch portraits. These chiaroscuro photographs, in which the head and hands compose the white areas, patently emulate another form of art. The closer his approximation the more praise his photographs received from critics of both art and photography. The highest praise a photograph could receive was that it resembled a painting. With Salomon photography went off on a tangent. It took more than fifty years to bring the art of photography, a graphic art in its own right, back to the honest purpose in which the camera does its best work.

A little-known photographer of high caliber was Pierre Petit, in the 1860s considered with Nadar and Carjat in the front rank of his profession. Petit was born in 1823; by the time he was seventeen he was an accomplished daguerreotypist and, by 1860, in partnership with a man named Trinquart, he was conducting a studio titled "Photographie de Deux-Mondes." It was said that he stored there 229,000 negatives he had taken in less than twenty years. Petit was appointed official photographer of the Paris World's Fair of 1867, and he was commissioned to photograph the raising of the Statue of Liberty.

Portrait photographers, in order to compete with lithographers and etchers, tried to make ever larger and more imposing photographs. In 1854 Adolphe Eugène Disdéri (1819–1890?) patented in Paris the "*carte de visite*," a camera with four lenses that made eight small photographs measuring 3¼ by 2⅛ inches on a full-size plate of 6½ by 8½ inches. These eight photographs, each on an average-size 4-by-2½-inch visiting card, sold for about $4, less than half the price a portrait photographer usually charged for a single full-size print.

Disdéri was a colorful, self-confident, publicity-conscious salesman who, though uneducated, did things with a flourish that captivated commoner and king. The Emperor Napoleon III, marching at the head of his troops to Italy for another of his "prestige wars" with Austria, stopped his army, which waited on the street while he and his staff walked into Disdéri's studio to sit for *carte-de-visite* portraits. The story spread. Immediately every person in Paris had to have *carte-de-visite* photographs made by Disdéri. What a showman! Disdéri rose to the occasion. He dressed extravagantly. His wide full beard he draped over satin blouses of shrieking colors which he bound at the waist with enormous belts; below, he wore short hussar trousers. Dressed in this outlandish costume, Disdéri took pictures in his studio with dramatic, imperious gestures. The crowds loved it; they flocked to his studio. He opened a second studio in southern France and still others in London and Madrid. Emperor Napoleon III and the Empress appointed him official court photographer.

Disdéri earned millions and he spent millions. He bought houses and horses, elegant mansions, and stables of thoroughbreds. He was a lavish host; he acquired princely habits. In 1866 the insatiable demand for *cartes de visite* ceased as suddenly as it began. Disdéri thought up novelties to revive his flagging business or touted tricks in photography which already existed, such as pictures on silk and ceramics. Nothing worked. He could not compete with the cheap competition that he had created; the price of the *carte de visite* had been driven down to $1 a dozen.

Four years later the Franco-Prussian War caused the dethronement of the Emperor. The Second Empire collapsed and so did Disdéri's entire fortune. He was bankrupt. He went to the Riviera. He walked the beach at Nice, it was said, with a camera, taking pictures of tourists for a pittance. Through the lens he saw visions of his astounding days in Paris. He died with his dreams, a pauper, forgotten; it must have been in the summer of 1890, for he was not seen on the beach again.

The *carte de visite* revolutionized photography. Millions of people, as the craze swept England and America, went to have their portraits taken. Studios also sold cards of the royal family and of the famous. Tens of thousands of cards were sold of the pictures of Queen Victoria and the Prince Consort taken by Mayall in 1861. *Cartes* of celebrities enjoyed the same kind of popular sale in the United States.

The *carte de visite* was a standardized, stereotyped kind of picture. Most often a full figure, the picture showed a person standing next to a column, or a table piled high with books, in front of a heavy, velvet drapery. The head was so small in relation to the card, about ¼ inch to the 3½ or 4 inches of the total length of card, that it required but a second to hold the pose and was therefore most often a likeness in focus. The photograph, however, usually revealed little of the subject's character through lighting or pose. At the prices charged no individual attention could be given the small *carte de visite*.

There had to be some way to save the untold thousands of cards which piled up from family and friends who either called and left cards or exchanged them on birthdays and holidays. The answer was the *carte-de-visite* album. Some albums sold at nominal prices and others were very elaborate, bound in fine, tooled, expensive leather. The album became a required feature, the perfect conversation piece for every Victorian parlor and drawing room.

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MULNIER, Jules Breton, French Painter. *From Woodburytype reproduction of wet-plate photograph, 1882. From* Galerie contemporaine. *Courtesy George Eastman House, Rochester.*

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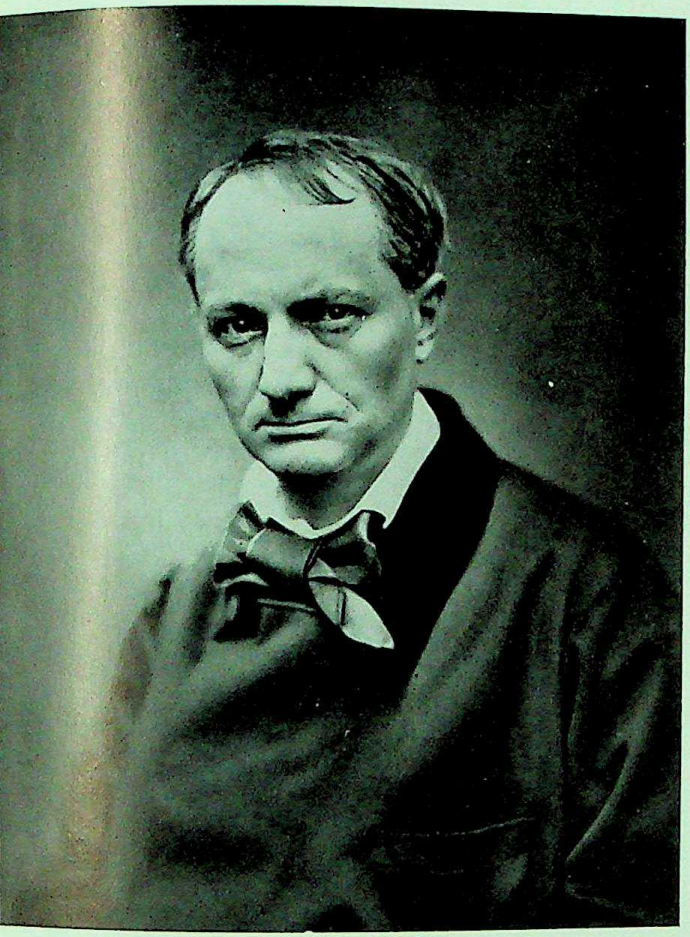
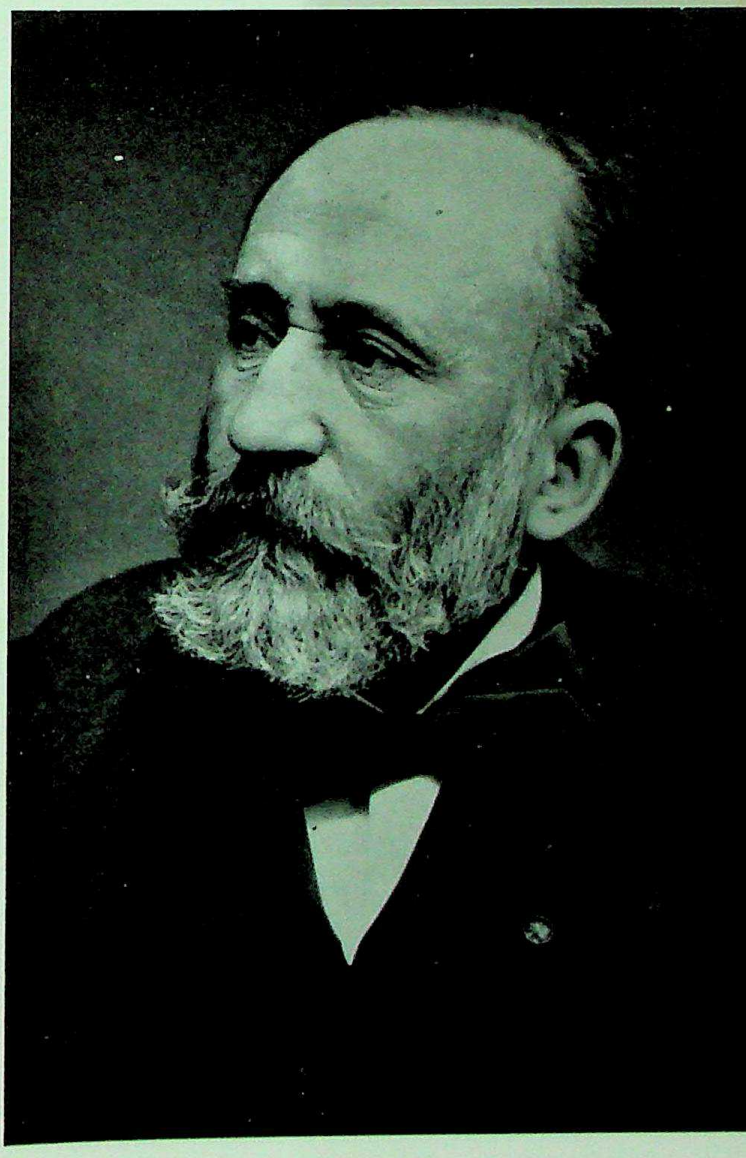


ETIENNE CARJAT, Portrait of Charles Baudelaire. *From Woodburytype of wet-plate photograph, 1863. From Nadar,* Galerie contemporaine, *1870. Courtesy George Eastman House.*



CARJAT, Puvis de Chavannes, French Painter. *From Woodburytype reproduction of wet-plate photograph, 1878. From* Galerie contemporaine. *Courtesy George Eastman House.*

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DISDERI. *Sheets of uncut* carte-de-visite *photographs, 1860-64. Courtesy George Eastman House.*
above: Portrait of a French Actress.
opposite page: Portrait of Martha Muravieva.

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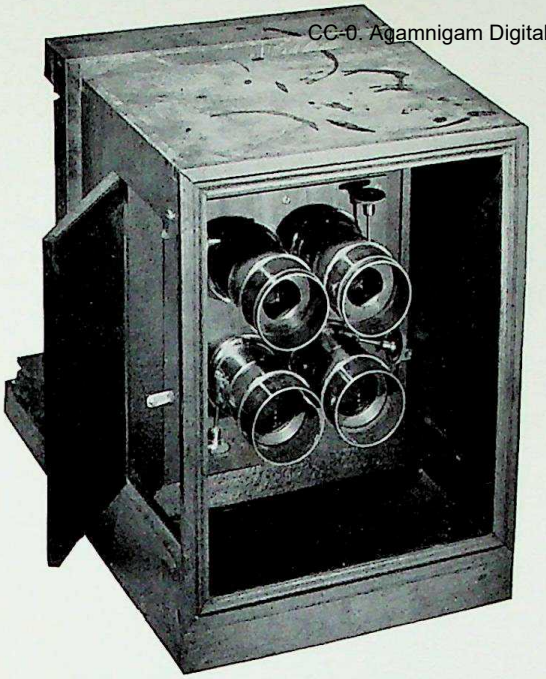

The carte-de-visite *camera patented by Disdéri in 1854. Eight exposures were obtained on a 6½ x 8½ inch plate. The print was then cut up and mounted on cards approximately 4 x 2½ inches, the size of a visiting card. Courtesy George Eastman House.*

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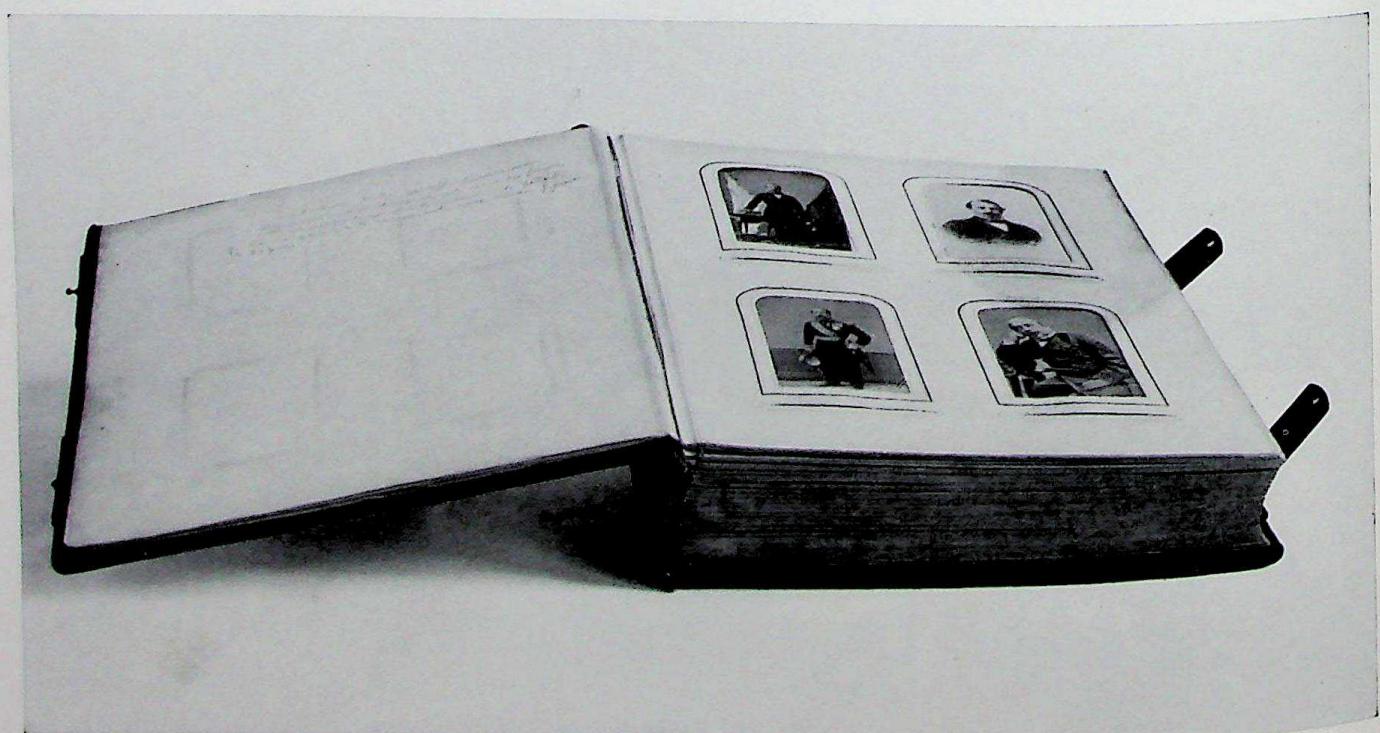
Disdéri and the strange garb he affected. Wood engraving caricature by Van den Acker, which Disdéri used as an advertisement in the Paris journals of 1861. Courtesy Gernsheim Collection, London.

A rare carte-de-visite *album by various photographers of the late 1850s and early 1860s in France. Opposite is the page to which the album is opened, with four photographs of the Emperor Napoleon III. The two at top are by Disdéri, bottom left is by Mayer and Pierson, and bottom right by Appert. Courtesy George Eastman House.*



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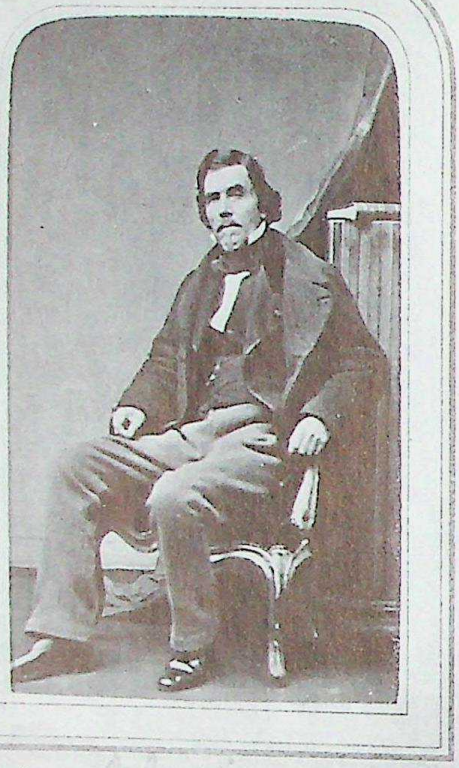

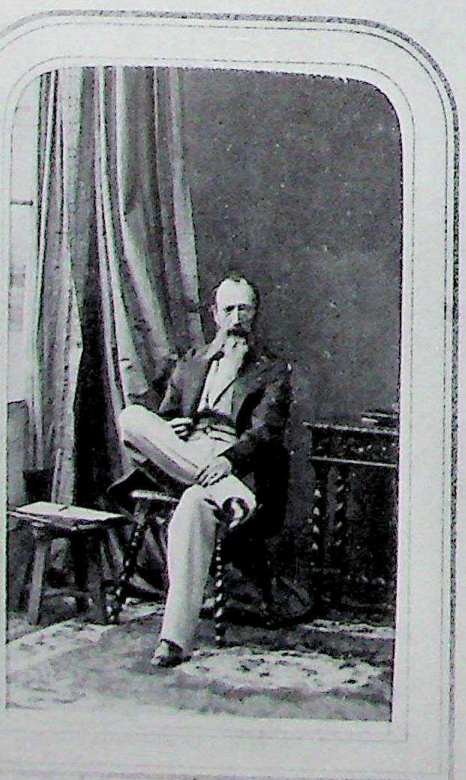

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left: JOHN MAYALL, Queen Victoria and the Prince Consort. *London, 1861.* Carte-de-visite. *Courtesy Gernsheim Collection.*
below: Portrait of Queen Victoria. *Photograph on silk, about 1866. By Downey. Courtesy George Eastman House.*

Another page from the carte-de-visite *album.*
upper left: Delacroix, *by* PIERRE PETIT
upper right: Ingres, *by* DISDERI
lower left: Horace Vernet, *by* DISDERI
lower right: Courbet, *by* PIERRE PETIT
Courtesy George Eastman House.

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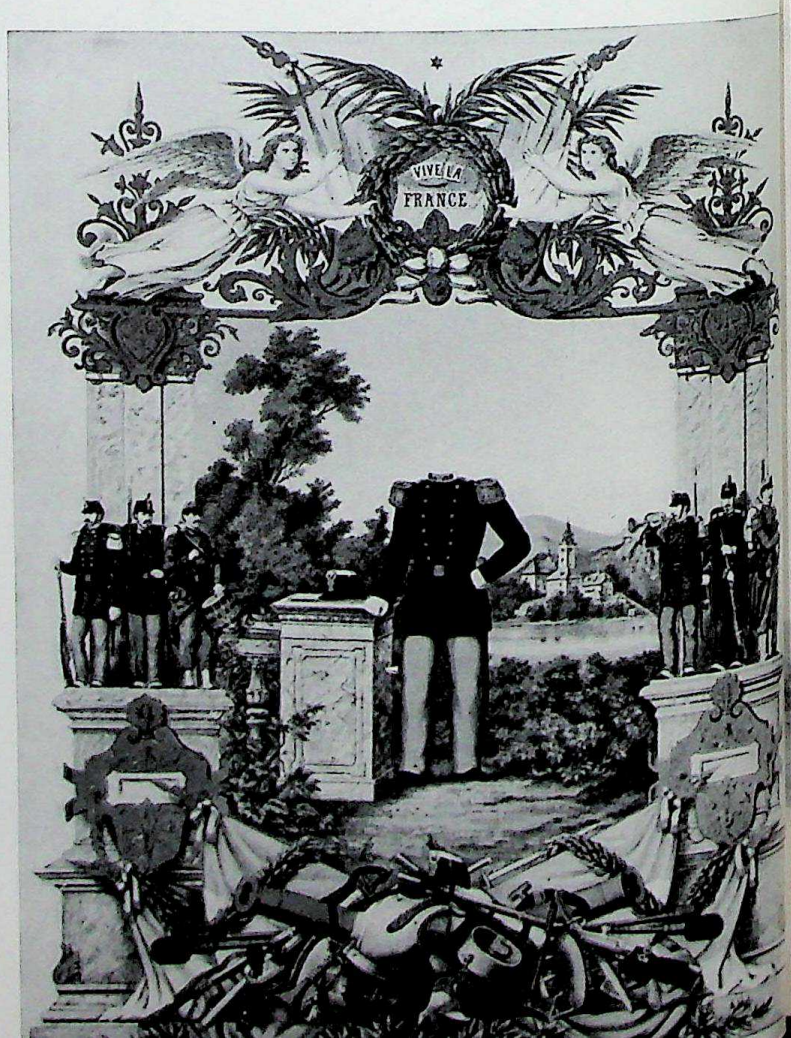
Album card inviting contributions, 1865. Courtesy Gernsheim Collection.



Lithograph props by R. de Moraine, which photographers used in attempting to revive business after the carte-de-visite *craze suddenly stopped. Courtesy George Eastman House.*

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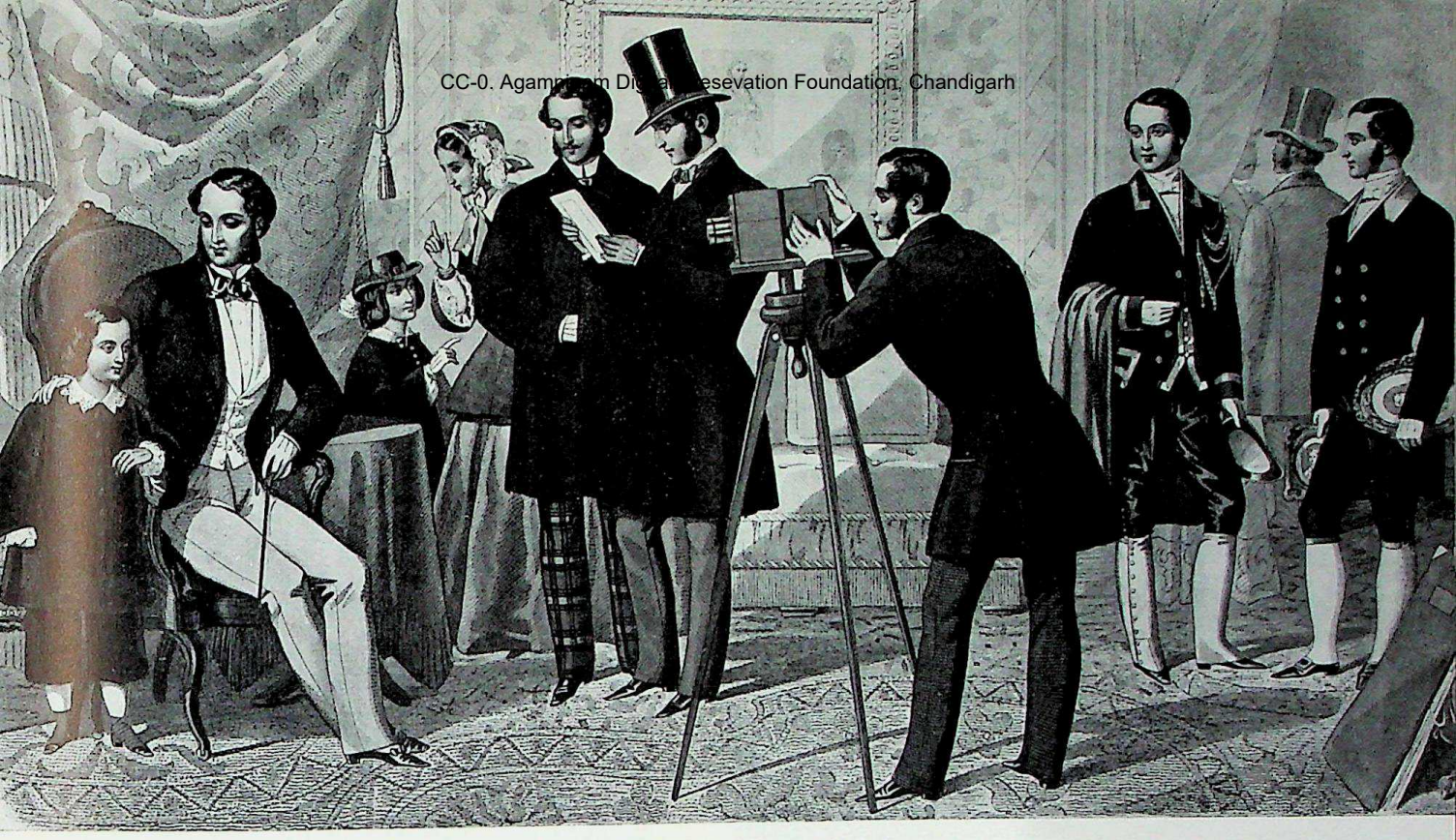

A French fashion plate of 1857, featuring a camera. Lack of character in the models and the proportion of head to body shown here became the ideal of the carte-de-visite. *Courtesy George Eastman House.*

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13.

Julia Margaret Cameron: Portraits Out-of-Focus

Julia Margaret Cameron (1815–1879) was endowed with a combination of eccentricities, energy, and inspiration that prompted her to photograph great Victorian personalities and enabled her to reflect their spirit, power, and character better than any portraitist. She concentrated on their heads, revealing their depths of mind as she revealed her own depth of feeling about them. Titans of their day they were—among them Tennyson, Darwin, Browning, Longfellow, Sir John Herschel, George Frederick Watts, Anthony Trollope, and Thomas Carlyle.

It seemed ludicrous; her "head hunting" was without parallel and was not confined to celebrities. She would pursue perfect strangers, "kidnap" them, make them pose stock still, without a head rest, for as long as 7 minutes, and repeat the torture again and again until she was satisfied. Once Robert Browning, admonished to wait for her return and overwhelmed by her commanding personality, sat for three hours while she busied herself in the darkroom.

It was the soul of the subject she was after. The camera provided her with the ideal instrument to record the facial characteristics of her intellectual heroes. Her studio was her gallery of the sanctified; she created ikons to worship. Her photographs of plain people were comparatively uninteresting, merely records containing little more than fuzzy likenesses of persons she obviously did not worship.

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Mrs. Cameron was never known to photograph a landscape. The forms of the land and of growing things did not satisfy her as did portrait subjects as a vehicle for expression of her feelings. However, her illustrations of Tennyson's romantic poems and of her own complex allegories pleased her artistic sensibilities. She learned illustration from her mentor, George Frederick Watts; her allegorical photographs, like Watts's allegorical paintings, were tasteless and sentimental.

Her forte, as we see it today, was the direct, close-up portrait. She permitted no retouching, no enlarging; only contact prints were made from her enormous wet plates which measured 8 by 10 or 12 by 15 inches. A Herculean task, hardly a proper one for a strange, wealthy woman not too particular about her dress and habits—often there were thumbprints, dust spots, cracked glass negatives, and editions of uneven prints.

She was a dedicated artistic "primitive" with a camera. Her photographs are out of focus, not deliberately soft focus—this was later to become the vogue in photography —but literally not sharp because the lenses she used could not be made to photograph sharp details. Had she compromised with the size of the camera and substituted a smaller one, had she pulled back from the subject so that his every movement and tremor would not have registered, or had she concentrated all the light possible on the subject rather than the small amount of top light she permitted to enter her small glass studio, the photographs would have been sharper and the sitter would not have been subjected to the misery of such lengthy exposures. But, had she had any consideration either for subject or herself, she would not have been Julia Margaret Cameron.

Her lavish idolatry of eminent poets, painters, and writers she disclosed in her portraits. She presented what she felt were their finest attributes. In each the face is unsmiling; it fills the plate. She was intent on securing a lasting expression that she considered beautiful—by which she also meant spiritual. She rarely photographed the body or hands of these men. She followed no one's style. She was attacked persistently for her bad technique by critics and members of the Royal Photographic Society. Nothing fazed her. She persisted in taking immortal photographs of men's heads.

Her philosophy, akin to Carlyle's hero worship, seems to coincide with the early aims of George Frederick Watts, the celebrated Victorian painter. In his early portraits, many of them sensitive, Watts attempted to paint the soul. Mrs. Cameron knew paintings and painter well, years before she took up the camera. She met him regularly at Little Holland House in London, where Watts lived with Mrs. Cameron's sister and brother-in-law, Mr. and Mrs. Thoby Prinsep. Watts was the original "man who came to dinner": invited for two weeks, he stayed more than twenty years. Then, to prove how much he enjoyed their company, he built a house on the Isle of Wight, near Mr. and Mrs. Cameron; the Prinseps stayed there with him for an additional several years. Watts sought protection against loneliness and melancholia in the family life of others. Mrs. Cameron's sister, Mrs. Prinsep, conducted in Little Holland House a literary and artistic salon around the painter, whose affairs she managed, and made a red-doored studio available to him in her house. She arranged the marriage of the forty-seven-year-old Watts to the sixteen-year-old Ellen Terry, a marriage which lasted long enough for Mrs. Cameron to take one of her most beautiful photographs.

Watts was the major influence on Mrs. Cameron as a photographer. Aspiring to become England's Michelangelo, he had become a philosopher with a paint brush; he moralized in frescoes on public walls and in tremendous romantic canvases. These paintings were really bad literature. Like the Pre-Raphaelites, Watts believed "a picture after all is but an open book where those who have eyes to see can read strange matters." Watts was considered to be not only a painter but a prophet and teacher who painted the ultimate truth.

The Victorians revered him for lengthy literary messages on such themes as *Death Crowning Innocence*, and *When Poverty Comes in at the Door, Love Flies out at the Window*—small ideas and puny emotions, blown up through saccharine sentimentalism.

Literary ideas replaced plastic ideas for Watts; and he instilled this conception in Mrs. Cameron. Her photographic allegories are no more respected or remembered today than those painted by Watts. She posed and photographed such allegorical subjects as *Faith, Hope and Charity, Peace, Love and Faith*. Watts praised these efforts, not her portraits.

Mrs. Cameron photographed her children (she had six), her grandchildren, her maids, her sisters, and her nephews whenever celebrities or strangers were not available, and she used them as subjects for her photographic illustrations of Tennyson's poetry. In 1860 she moved to the Isle of Wight, in Freshwater Bay to be near Tennyson, the Poet Laureate. Her friendship with him and his family had started in the same way as many friendships she had sought. She would begin with a gift of an Indian shawl, then several days later another shawl, then carved ivories, jewelry, and bric-a-brac—all this from India

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where she had been born and where she had married a well-to-do jurist and plantation owner; she had come to England with an inexhaustible supply of silks and artifacts from the East. Though her gifts may have embarrassed the recipients, even the most irritated eventually gave in, sat for his portrait, and counted on the friendship of the ebullient Mrs. Cameron. Tennyson and his poems were her inspiration for allegoric and illustrative photography. Mrs. Cameron's first volume, containing twelve photographs illustrating Tennyson's *Idylls of the King and Other Poems*, appeared in 1875; a little later a second volume with an additional twelve photographs was published. Both received critical acclaim in the press "as they had been executed at the Laureate's own request and dedicated by gracious permission to the Crown Princess of Germany and the Princess Royal of England." Photography was competing with the brush and using motivation detrimental to both.

In the latter part of 1875 Mr. Cameron suddenly decided to return to Ceylon. The story goes that one day he borrowed a son's overcoat and strolled down to the sea, the first time he had left the grounds of his house in twelve years, and the sight of the ocean filled him with a yearning to see Ceylon again and to be with his two sons who were managing his plantations.

It was a perfect departure for Mrs. Cameron. Quite incongruously she tipped the railroad-station porters with portraits of Carlyle and Tennyson, saying that she had no more money. Some of these pictures are still to be seen on the station walls.

HENRY HERSCHEL HAY CAMERON,
Portrait of Julia Margaret Cameron, 1870.
Taken by Mrs. Cameron's son. Courtesy Gernsheim Collection, London.

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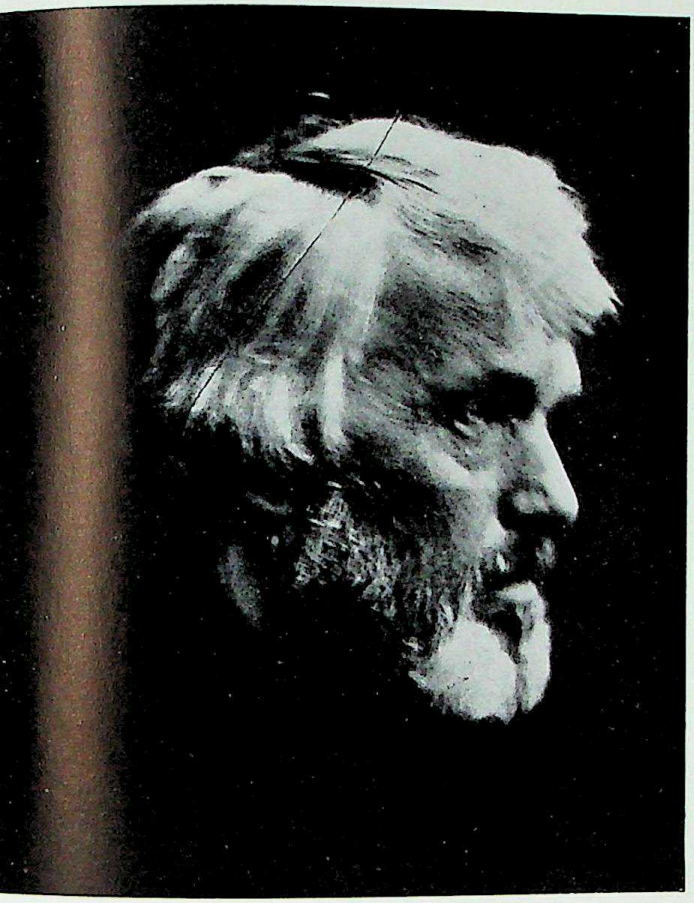

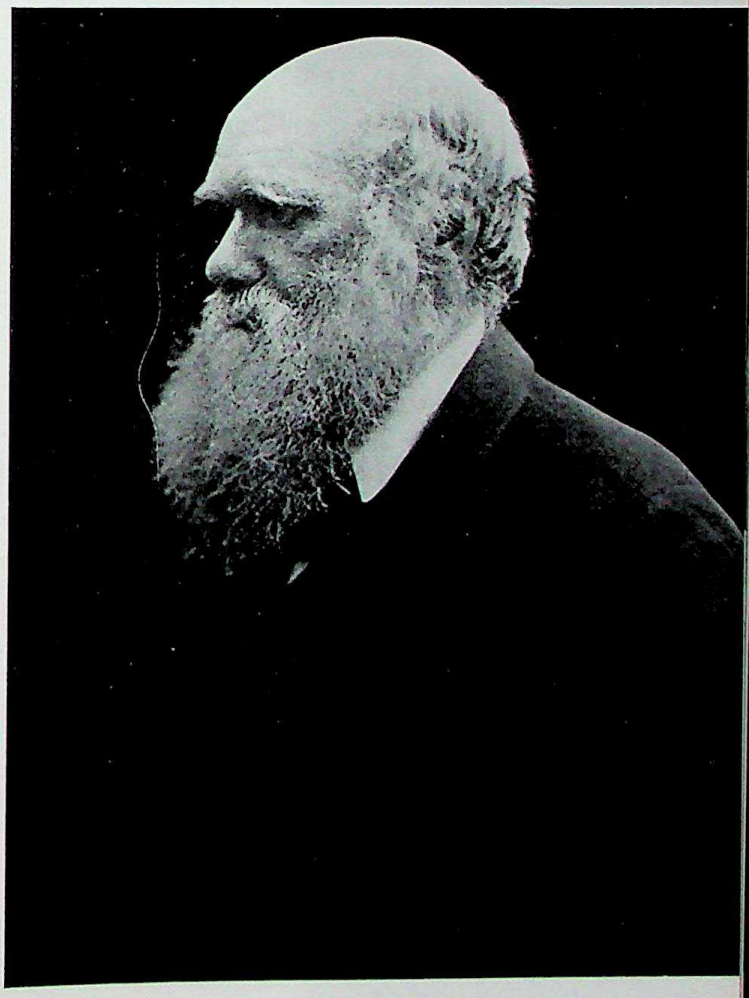

JULIA MARGARET CAMERON
above: Portrait of Thomas Carlyle, *about 1867. Out of focus, plate cracked and spotted. Characteristic of Mrs. Cameron's equipment and technique. right:* Portrait of Charles Darwin, *1869. Both, courtesy The Art Institute of Chicago, Stieglitz Collection.*

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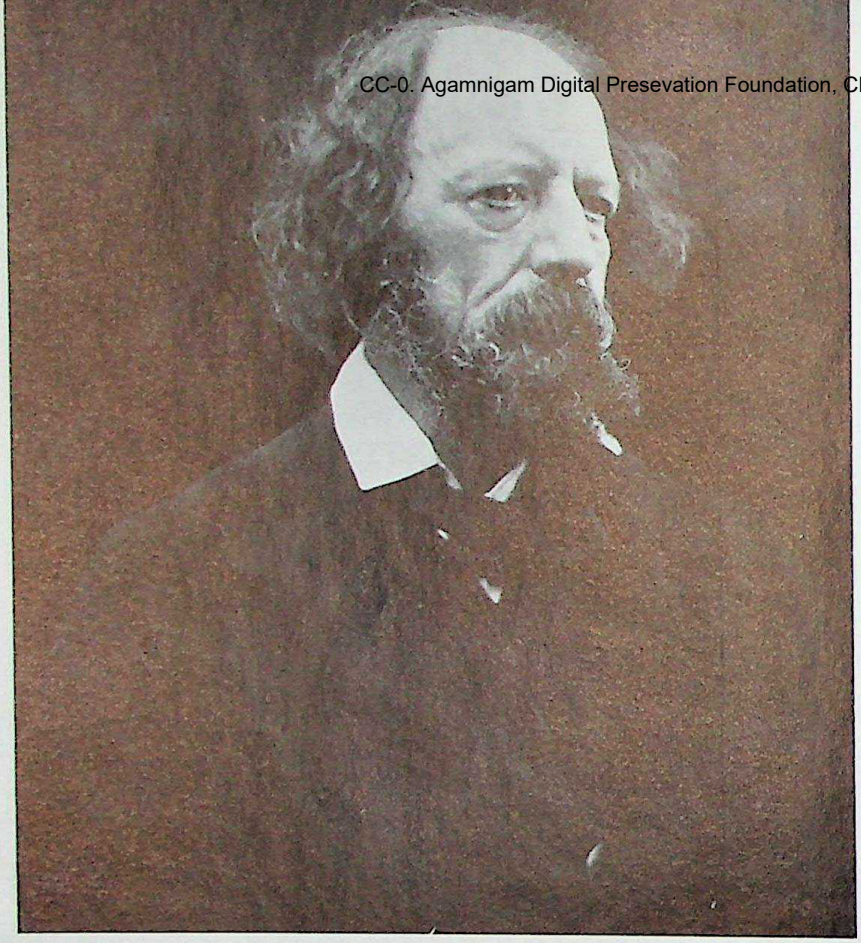
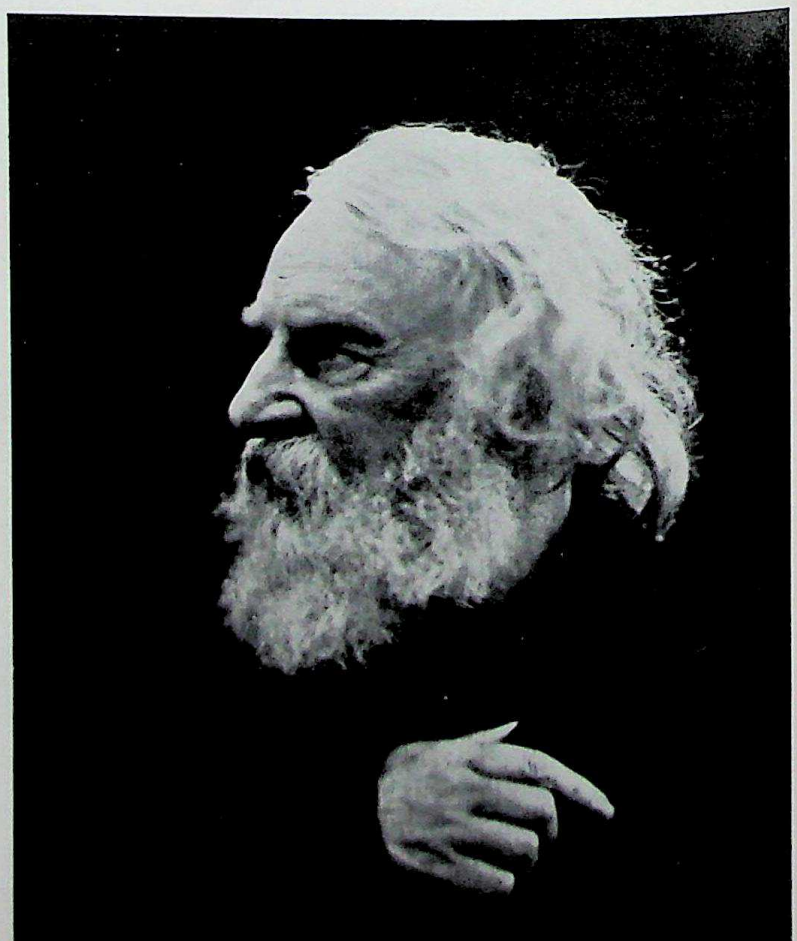


JULIA MARGARET CAMERON
above: Portrait of Alfred, Lord Tennyson. *June 3, 1868.*
right: Portrait of Henry Wadsworth Longfellow, *1868. Longfellow visited Tennyson on the Isle of Wight, and was prevailed upon by the insistent Mrs. Cameron to sit for his portrait. One of the rare portraits in which she included more than the head.*
opposite page: Portrait of Sir John Herschel. *Wet-plate photograph, 1867. The pioneer in photography and noted astronomer at the age of seventy-five. One of Mrs. Cameron's greatest photographs.*
All, courtesy The Art Institute of Chicago, Stieglitz Collection.



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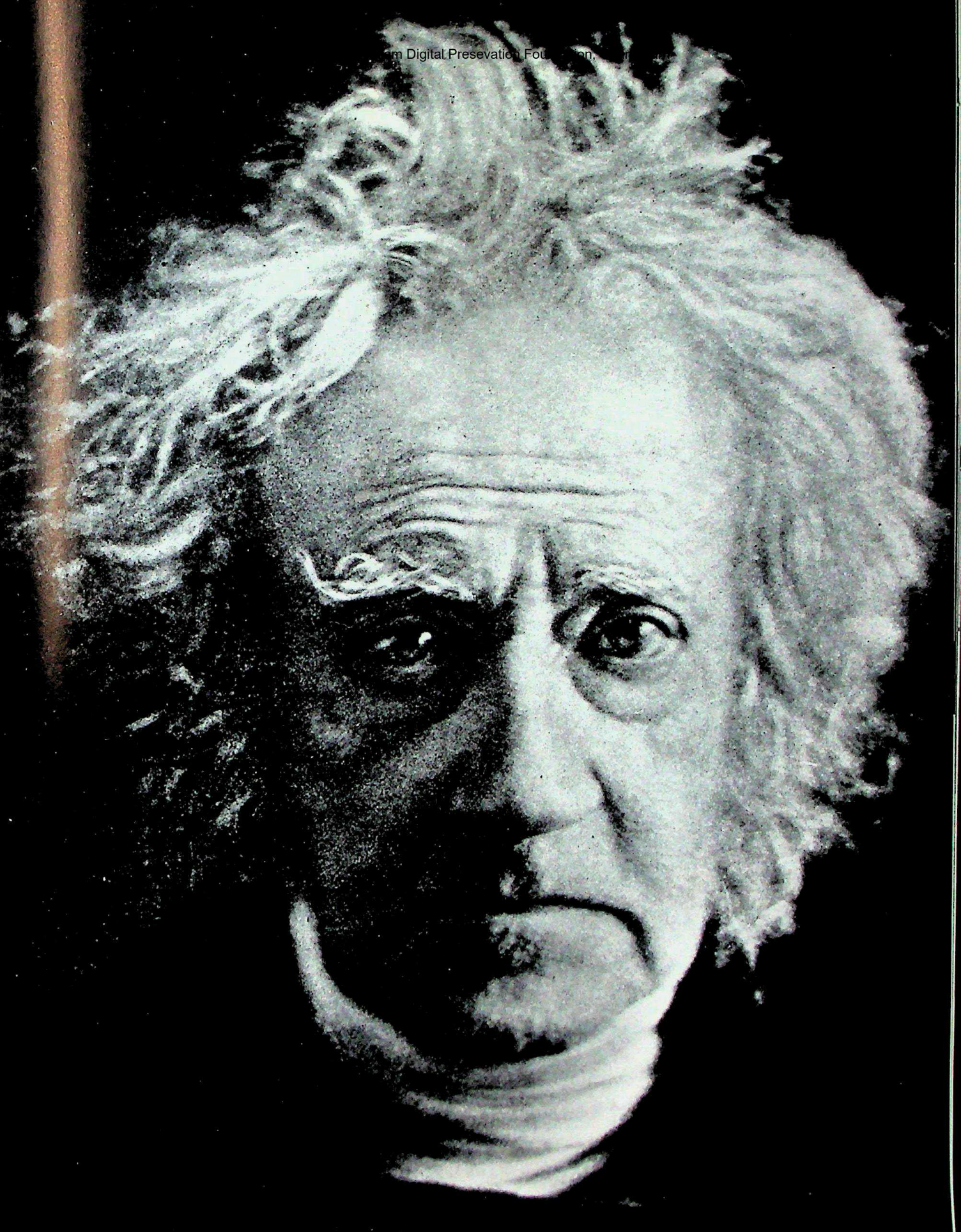

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JULIA MARGARET CAMERON, Portrait of Ellen Terry, *1864*. *The famous actress at age sixteen, then recently married to the painter G. F. Watts, more than thirty years her senior. Courtesy Metropolitan Museum of Art.*

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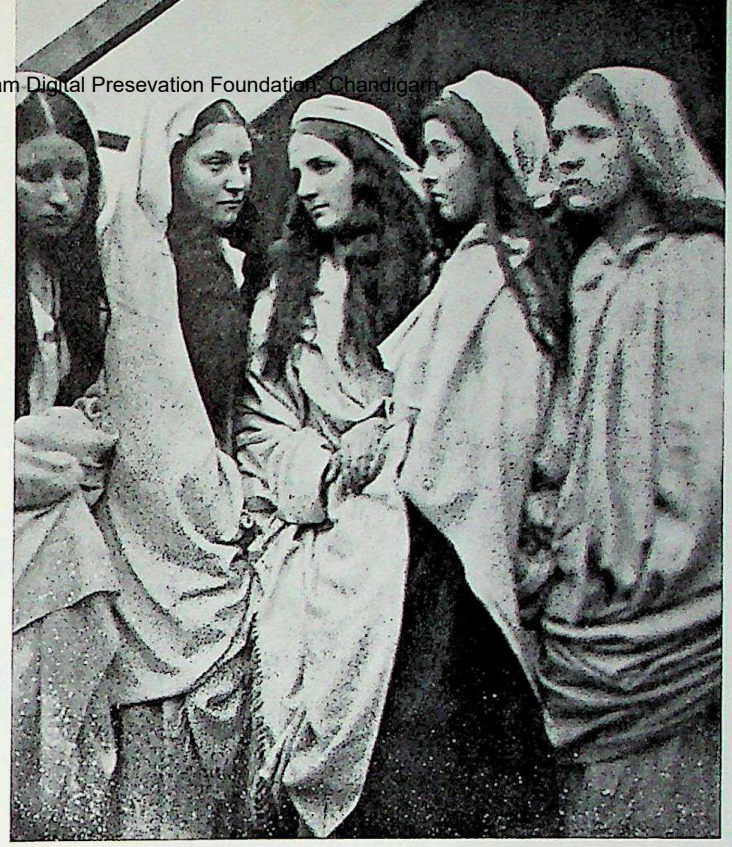

JULIA MARGARET CAMERON
above: The Foolish Virgins. *Allegorical photograph, about 1865.*
above left: Summer Days. *About 1865. An early photograph of servants and friend's children. Both, courtesy George Eastman House.*
left: Portrait of Joseph Joachim, *1868. The famous violinist, to whom Brahms dedicated his violin concerto. Courtesy The Art Institute of Chicago, Stieglitz Collection.*

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14.

Rejlander, Robinson and "Art" Photography

THE ART OF THE SENTIMENTAL VICTORIAN AGE was the idealized storytelling genre or allegorical painting, as beloved in the academies of the Continent as it was in England.

Thoroughly grounded in this literary atmosphere of art was Oscar G. Rejlander (1813–1875) of Sweden, who studied painting and sculpture at the Academy in Rome. His subsequent stay in Paris served to confirm his approach to painting; his portraits glorified the sitter extravagantly and his complicated allegories became ever more involved.

He went to England when he married an Englishwoman and decided to pursue photography for a livelihood; but he continued to paint portraits sporadically and several of these were exhibited at the Royal Academy over the years.

Telling about his conversion to photography, Rejlander writes that he took all five lessons in one afternoon, the calotype, the waxed-paper process, and a half-hour on the collodion process. He then writes, "It would have saved me a year or more of trouble and expense had I attended carefully to the rudiments of the art for a month."

Despite this inadequate training in technique, Rejlander opened a studio. What he had learned of art and particularly the keen eye he had developed in observing

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unique facets of character in people benefited him greatly in photography when he emulated with the camera the vast theatrical and literary allegories he had made with the brush.

In 1856 he made a composite print, 31 by 16 inches, from thirty different negatives. It was an immediate sensation. This allegorical picture, *The Two Paths of Life*, represents a venerable sage introducing two young men into life. The serene, philosophical one turns to religion, charity, industry, and the other virtues, while the second young man rushes madly into the pleasures of the world, typified by various figures representing "Gambling, Wine, Licentiousness and other Vices, ending in Suicide, Insanity and Death." In the front center of the picture is a figure of "Repentance with the Emblem of Hope." Thus was this allegory described when it was first shown.

Praise was heaped on the print, although in Scotland it was refused admittance in an exhibition for being too nude. Shown the same year at the Art Treasures exhibition in Manchester, it was purchased by Queen Victoria.

Neither sensual, natural, nor moral, the allegory appealed to the Victorian romantic, who was literary-minded. Had Hogarth been alive and painting his epic *Marriage à la Mode*, or his *Harlot's Progress*, his work would not have been stomached.

Rejlander's combination photographs made up of artificial poses and contrived scenes from retouched negatives, with desired effects painted in and undesired effects painted out, were loved in their day and still hold the "arty" photographer enthralled.

The Impressionists were rediscovering nature and the effect of changing light on form and color while the artist-photographer lost himself in the false art prevailing in the Victorian studio.

If Rejlander had had fast film and a candid camera in his hands, he might have left a penetrating and valid record of his day. His artistic training caused him to seek and register the intensity of emotional feeling he observed in the swarming streets of London. The slower collodion process caused him to direct people to assume and re-enact the emotions he observed and mimicked for them. Charles Darwin, seeing these posed but nonetheless emotionally charged portraits, approached Rejlander to collaborate on a book, *The Expression of the Emotions in Man and Animals*. Rejlander made twenty-eight photographs of men, women, and children, whom he directed in displaying various emotions; for several of these he posed himself. His plates were too slow or else he was not interested in animals—no pictures of emotions of nonhumans appear in the book.

Rejlander continued with combination printing, but never again attempted such a complex picture as *The Two Paths of Life*. *The Head of St. John the Baptist* he made from only two negatives and *The Dream* (1860) from one straight negative. This was a strange allegory charged with Freudian meanings.

Five years later he was still enmeshed in the pictorial aims of "high-art" photography. Ever the experimenter, however, he developed the double exposure and the photomontage, superimposing one negative on another to make a modern-appearing multiple-exposure photograph entitled *Hard Times*. From these experiments he realized considerable recognition but little profit. His main source of income for the rest of his life was from making portraits and from supplying artists with nude and clothed studies of adults and children. These pictures of children, convincingly enacting his poses and embodying the emotion he tried to convey, found praise from the Reverend Charles L. Dodgson—Lewis Carroll—who came to study with Rejlander. The creator of *Alice in Wonderland* took some unforgettable pictures of artists, fellow professors, and particularly of children. Rejlander made a sensitive photograph of Dodgson holding a big lens and a focusing cloth.

It was a long time before photography stopped looking to painting for guidance. Henry Peach Robinson (1830–1901), a talented painter who turned photographer in the year 1858, followed Rejlander into the vehement controversy over combination printing by exhibiting a picture, *Fading Away*, made from five negatives. This was a picture of a dying girl seated in a chair and sadly watched by sister and mother while father looks out of an open window; it had printed on its mat a verse from Shelley's *Queen Mab*,

> Must then that peerless form
> Which love and admiration cannot view
> Without a beating heart; those azure veins,
> Which steal like streams along a field of snow;
> That lovely outline, which is fair
> As breathing marble, perish?

The "art photograph," as Robinson described these elaborately fabricated pictures, was severely criticized for misrepresenting the truth, but the Royal House was impressed with combination prints and purchased *Fading Away*. The Prince Consort gave Robinson a standing order for one print of each such photograph that he would make. Robinson became not only the leading pictorial photographer of England but a prolific writer of manuals and treatises on photography. His first book,

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Telling about his conversion to photography, Rejlander writes that he took all five lessons in one afternoon, the calotype, the waxed-paper process, and a half-hour on the collodion process. He then writes, "It would have saved me a year or more of trouble and expense had I attended carefully to the rudiments of the art for a month."

Despite this inadequate training in technique, Rejlander opened a studio. What he had learned of art and particularly the keen eye he had developed in observing

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unique facets of character in people benefited him greatly in photography when he emulated with the camera the vast theatrical and literary allegories he had made with the brush.

In 1856 he made a composite print, 31 by 16 inches, from thirty different negatives. It was an immediate sensation. This allegorical picture, *The Two Paths of Life*, represents a venerable sage introducing two young men into life. The serene, philosophical one turns to religion, charity, industry, and the other virtues, while the second young man rushes madly into the pleasures of the world, typified by various figures representing "Gambling, Wine, Licentiousness and other Vices, ending in Suicide, Insanity and Death." In the front center of the picture is a figure of "Repentance with the Emblem of Hope." Thus was this allegory described when it was first shown.

Praise was heaped on the print, although in Scotland it was refused admittance in an exhibition for being too nude. Shown the same year at the Art Treasures exhibition in Manchester, it was purchased by Queen Victoria.

Neither sensual, natural, nor moral, the allegory appealed to the Victorian romantic, who was literary-minded. Had Hogarth been alive and painting his epic *Marriage à la Mode*, or his *Harlot's Progress*, his work would not have been stomached.

Rejlander's combination photographs made up of artificial poses and contrived scenes from retouched negatives, with desired effects painted in and undesired effects painted out, were loved in their day and still hold the "arty" photographer enthralled.

The Impressionists were rediscovering nature and the effect of changing light on form and color while the artist-photographer lost himself in the false art prevailing in the Victorian studio.

If Rejlander had had fast film and a candid camera in his hands, he might have left a penetrating and valid record of his day. His artistic training caused him to seek and register the intensity of emotional feeling he observed in the swarming streets of London. The slower collodion process caused him to direct people to assume and re-enact the emotions he observed and mimicked for them. Charles Darwin, seeing these posed but nonetheless emotionally charged portraits, approached Rejlander to collaborate on a book, *The Expression of the Emotions in Man and Animals*. Rejlander made twenty-eight photographs of men, women, and children, whom he directed in displaying various emotions; for several of these he posed himself. His plates were too slow or else he was not interested in animals—no pictures of emotions of nonhumans appear in the book.

Rejlander continued with combination printing, but never again attempted such a complex picture as *The Two Paths of Life*. *The Head of St. John the Baptist* he made from only two negatives and *The Dream* (1860) from one straight negative. This was a strange allegory charged with Freudian meanings.

Five years later he was still enmeshed in the pictorial aims of "high-art" photography. Ever the experimenter, however, he developed the double exposure and the photomontage, superimposing one negative on another to make a modern-appearing multiple-exposure photograph entitled *Hard Times*. From these experiments he realized considerable recognition but little profit. His main source of income for the rest of his life was from making portraits and from supplying artists with nude and clothed studies of adults and children. These pictures of children, convincingly enacting his poses and embodying the emotion he tried to convey, found praise from the Reverend Charles L. Dodgson—Lewis Carroll—who came to study with Rejlander. The creator of *Alice in Wonderland* took some unforgettable pictures of artists, fellow professors, and particularly of children. Rejlander made a sensitive photograph of Dodgson holding a big lens and a focusing cloth.

It was a long time before photography stopped looking to painting for guidance. Henry Peach Robinson (1830–1901), a talented painter who turned photographer in the year 1858, followed Rejlander into the vehement controversy over combination printing by exhibiting a picture, *Fading Away*, made from five negatives. This was a picture of a dying girl seated in a chair and sadly watched by sister and mother while father looks out of an open window; it had printed on its mat a verse from Shelley's *Queen Mab*,

> Must then that peerless form
> Which love and admiration cannot view
> Without a beating heart; those azure veins,
> Which steal like streams along a field of snow;
> That lovely outline, which is fair
> As breathing marble, perish?

The "art photograph," as Robinson described these elaborately fabricated pictures, was severely criticized for misrepresenting the truth, but the Royal House was impressed with combination prints and purchased *Fading Away*. The Prince Consort gave Robinson a standing order for one print of each such photograph that he would make. Robinson became not only the leading pictorial photographer of England but a prolific writer of manuals and treatises on photography. His first book,

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OSCAR G. REJLANDER, Two Gentlemen Taking Wine. *Composite photograph, about 1860. Courtesy George Eastman House, Rochester.*

REJLANDER, Two Paths of Life. *Composite picture, 31 x 16 inches, 1856. Made from thirty negatives. Courtesy George Eastman House.*

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Pictorial Effects in Photography, was published in 1869; toward the end of his life he published *Picture Making by Photography* and *Art Photography*; all three were translated into many languages and printed in many editions.

Robinson became the most bemedaled photographer of his day. His hidebound, academic rules of balanced composition and his pedantic preachments to photographers to "avoid the mean and ugly"—"correct the unpicturesque"—"mix photography with drawing," and to prefer the artificial atmosphere constructed inside the studio to the world outside have had a stultifying effect on pictorialists to this day, as have his sentimentally poetic titles.

Robinson continued to write and lecture on photography, always stressing the making of a photograph instead of the honest taking of one. His influence was felt in photographic circles everywhere, especially after his retirement in 1888, when he became vice-president of the Royal Photographic Society. He discontinued his advocacy of composite pictures, suggesting the use of multiple negatives only in emergencies when single negatives could not accomplish the desired results pictorially.

He produced some charming single-negative pictures neither sentimental nor "high art." These were realistic pictures posed but not obviously so, unretouched, and with an honest intent to portray the character of the subject. In his later writings Robinson derides the soft-focus exponents and he is offended by receiving the commendation that one of his prints did not look like a photograph. He writes, "Why should we try to make our pictures look like the results of other arts?" and he concludes, contradicting his earlier writing in which he favored the mixing of the artificial with the realistic, by writing, "What the photographer has to do is to make pictures with the means at his disposal, and to present them as having been done with those means and no other." He closes with these words, "The limitations of photography as an art have not been definitely fixed."

Robinson's later admonitions, however, seem never to have been read by his followers. Contradictions served only to confuse the pictorialists, who work by rote and rule. It was the rare photographer who read Robinson and then used his tools creatively.

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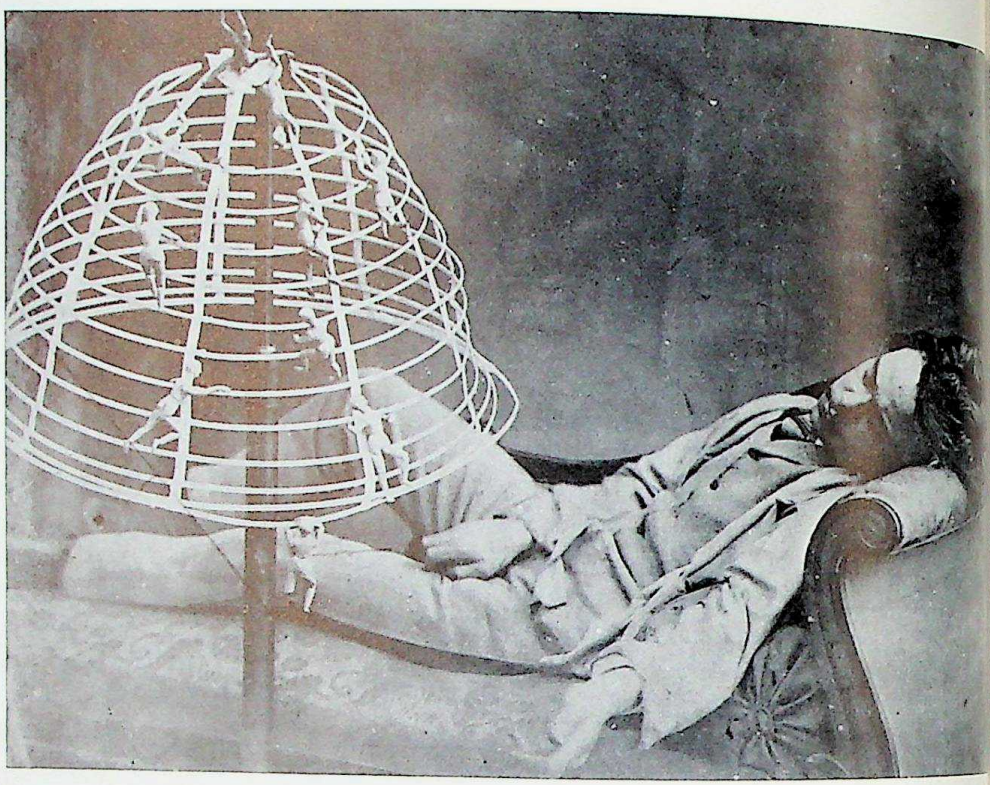

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REJLANDER
above: Hard Times. *"Spiritistical photo" printed from two superimposed plates, 1860.*
opposite page, above: The Dream. *1860. A crinoline hoop, an artist's mannikin, and a troubled dreamer.*
opposite page, below: Head of St. John the Baptist. *Composite photograph from two negatives, about 1860.*
All, courtesy George Eastman House.

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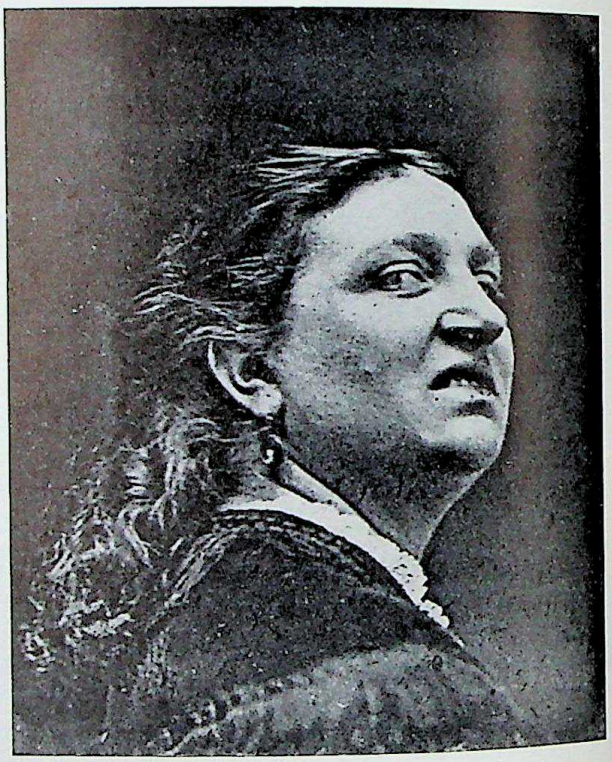

REJLANDER. *Three photographs, 1873, for Charles Darwin's book,* Expression of the Emotions. *Courtesy The Art Institute of Chicago.*
above: Sneering and Defiance.
left: Fear (*Self-portrait*).
right: Grief.

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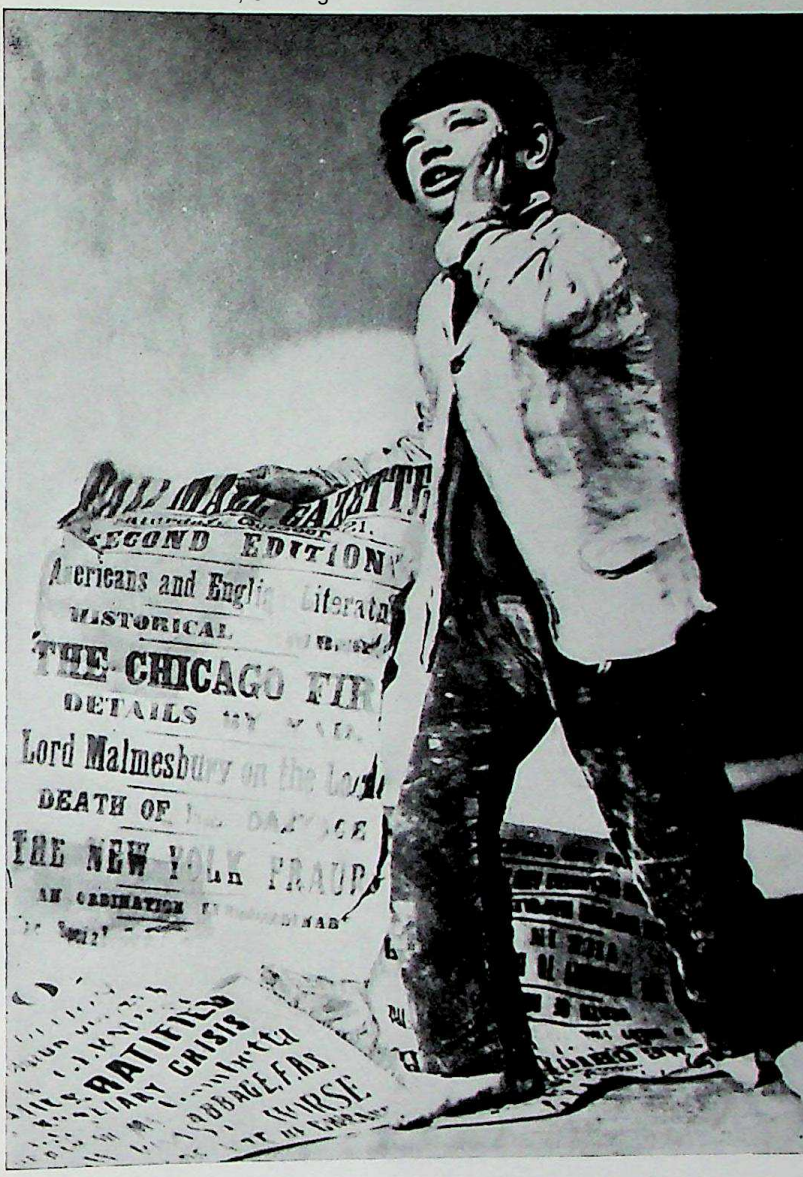

REJLANDER, The Chicago Fire. *1871*.
Courtesy George Eastman House.

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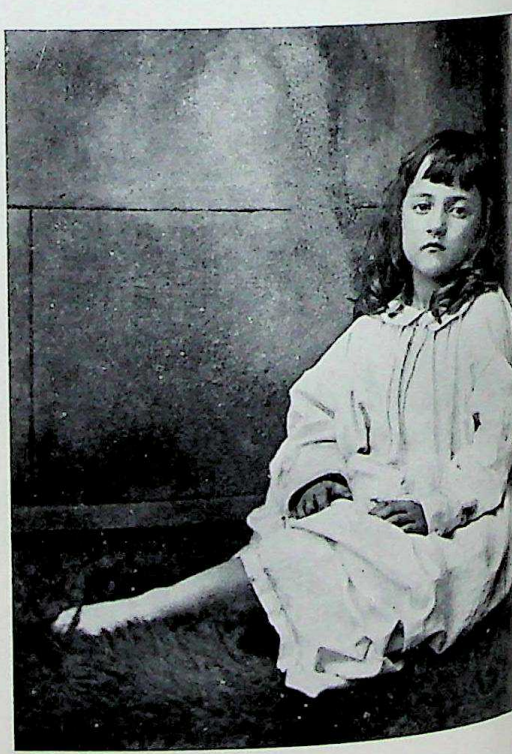
REJLANDER, Portrait of The Reverend Charles L. Dodgson (Lewis Carroll). 1863. *Courtesy Gernsheim Collection, London.*



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LEWIS CARROLL
above: Portrait of Alice Constance Westmacott. *1864.*
left: Portrait of Mary Millais. *1865.*
right: Portrait of Aileen-Wilson Todd. *1865.*
All three, courtesy Gernsheim Collection.

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HENRY PEACH ROBINSON. *Two composite photographs.*
below: When the Day's Work is Done. 1877.
opposite page, below: Caroling. 1887.
Both, courtesy George Eastman House.

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RALPH W. ROBINSON
Portrait of Henry Peach Robinson. 1897.
A portrait of the photographer's father.
Courtesy Gernsheim Collection.

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ROBINSON, *right:* Dawn and Sunset. *Composite photograph, about 1885. Courtesy George Eastman House. below: Pencil sketch, about 1860, for a composite picture. One photographic figure is already pasted in. The three or four other photographs necessary to complete the picture would have been joined and rephotographed; such prints were sold as works of "high art." Courtesy Gernsheim Collection. opposite page, top:* Fading Away. *Composite photograph, 1858. Made from five negatives, the joints subtly hidden. The Prince Consort was so impressed with such photographs that Robinson was given a standing order for a copy of every composite print he made. Courtesy Royal Photographic Society, London.*

ROBINSON
Women and Children in Country. *Composite photograph, June, 1860. Courtesy George Eastman House.*

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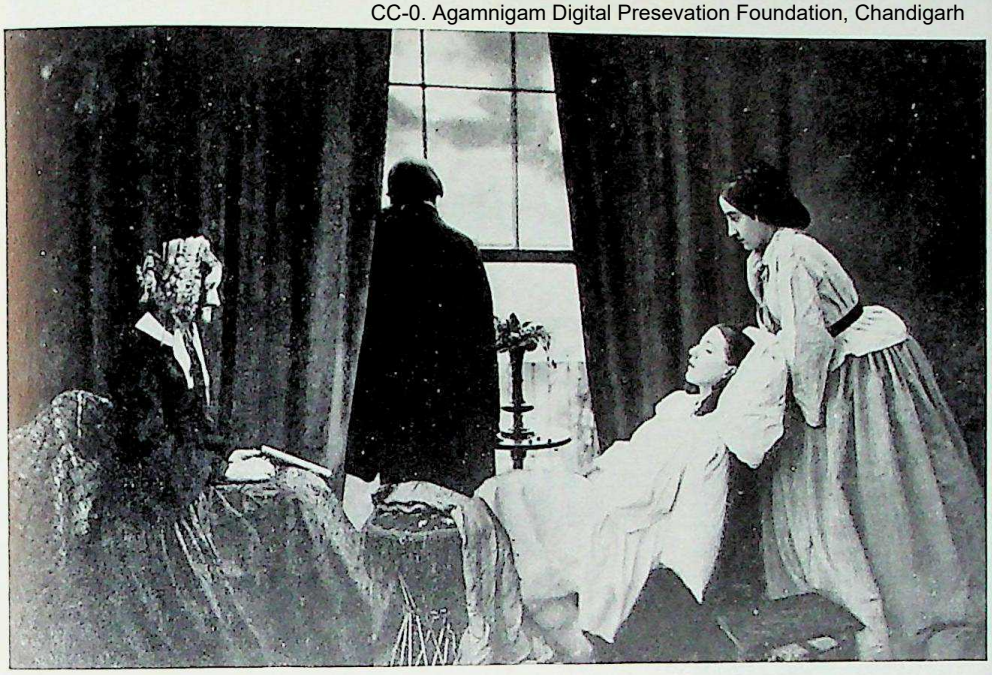

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15.

Brady: Cameraman of the Civil War

IT IS OFTEN FORGOTTEN that Mathew B. Brady, the most representative photographer of his day, took his portraits of the mighty and the famed with a sensitivity and artistry that he had first learned to put into pictures with a brush. His teacher was William Page, twelve years his senior, whom Brady met when he was only sixteen years old in 1839. He had just left his birthplace of Lake George, Warren County, New York. Brady painted portraits under the guidance of Page while they traveled as itinerant limners from Saratoga to New York City. Early the next year Page took Brady, still encouraging him to be a painter, to meet and perhaps study with his former instructor, Samuel F. B. Morse. Instead of signing up for courses in art, Brady enrolled in a class which Professors Morse and Draper were conducting on the daguerreotype process.

Brady's energy was boundless; he experimented with the lenses and the chemicals and made himself thoroughly proficient in all of the many delicate operations. He had to learn daguerreotypy completely for although his slight, 5-foot-6, square-shouldered, trim figure was endowed with inexhaustible energy and initiative, Brady was cursed with exceptionally weak and ever-failing eyes. There are no pictures extant showing Brady without glasses; year by year he was fitted with ever-thicker lenses.

In 1841 and for the following three years, to make

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money not only to pay his tuition at the university but also to accumulate capital so that he could open a gallery, Brady owned a factory which manufactured cases for jewelers and daguerreotypists. A letter dated June 17, 1843, in the Boyer Collection of Eastman House, addressed to A. S. Southworth in Boston, describes a new case he is manufacturing and offers for sale. The letter is undoubtedly written and signed by Brady. Mr. James D. Horan in his recently published, highly readable biography of Brady, *Historian with a Camera,* asks whether Brady was able to read but not write or whether, perhaps, it was his bad eyesight that kept him from writing. Mr. Horan's conclusions are that no truly ascertainable signature of Brady has been isolated, though what must necessarily have been his signature Mr. Horan calls attention to as appearing on a bill of sale of a piece of land in 1869, on a paper of his bankruptcy proceedings in 1873 and below the lithograph which was made of Brady by François d'Avignon in 1851; all are quite different. What now seems to be a positive signature of Brady of 1843 should prove that Brady could both read and write. However, he favored his ailing eyes and practically never wrote to anyone himself once he could afford to hire secretaries.

Following the practice of Samuel F. B. Morse, Brady opened a skylight-roofed studio on Broadway and Fulton Street in 1844. He had just reached his majority. That first year he was awarded a prize at the American Institute in New York for a daguerreotype; the following year he reaped more recognition by winning a gold medal; and the top award was his a year later. Brady then began to accumulate the most historically important pictorial record of the nation's statesmen and celebrities for a period of nearly fifty years, from President John Quincy Adams to President William McKinley.

Just a few days before Andrew Jackson died on June 8, 1845, Brady dispatched a photographer to the Hermitage in Nashville to take several daguerreotypes of Old Hickory, seventh President of the United States. One of these was recently donated to Eastman House by A. Conger Goodyear, and is now published in a book for the first time.

Brady conceived the idea of publishing books of likenesses of the notables who sat for his camera. In 1850 Brady published *The Gallery of Illustrious Americans* with twelve lithographed reproductions, eleven made from his daguerreotypes by François d'Avignon, whom he paid $100 a stone. The text he commissioned C. E. Lester to write, but it is not stated how much he paid for the writing. The impressive volume received critical acclaim and, though it was a financial failure, Brady considered it money well spent for a prestige piece and contemplated issuing another volume.

He continued to gather daguerreotypes not only of statesmen and soldiers but of practically all people in the public eye, including actors and actresses, doctors and professors, engineers and architects, opera stars and chess players. The people who made news in their day were recorded for posterity in elusive quicksilver made permanent through its vapors. Brady and his assistants took thousands of portraits which were used for wood engravings and lithographs to illustrate pages of the pictorial journals, newspapers, and books, until the nation's best known by-line was "From a Daguerreotype by Brady."

In 1847 Brady opened a branch gallery in Washington where it became the practice for the President and his cabinet and members of Congress, at one time or another, to entrust their heads to Brady's "immobilizer," as the torturous head clamp was called.

Both galleries thrived with business. Brady never displayed more energy, working every moment while there was light, despite his weak eyesight. Though he colored and tinted daguerreotypes, some on sensitized ivory, he sent forty-eight black-and-white images on silver to the London Crystal Palace Exhibition in 1851. His work was awarded a medal and singled out by critics as "noble examples of this style of art."

By 1853 Brady had almost forsaken the daguerreotype for ambrotype photographs made by the wet-plate process. He relied more and more on his assistants to man the cameras—the strain on his eyes was too tiring. He started to specialize in "imperials," enlargements of 17 by 20 inches, often life-size heads tinted or painted by artists on Brady's staff. This process made a photograph more costly than the usual oil painting procurable in the days before the Civil War. Orders for imperials by the wealthy and powerful were balanced by the mass business during the *carte-de-visite* craze as hordes of customers crowded his two establishments. As another source of income he and his assistants operated a school of photography.

In 1853 Brady opened a new gallery two flights above Thompson's saloon on Broadway. It was decorated at enormous expense with "satin and gold paper on the walls, embroidered draperies over the windows, an enameled chandelier hanging from the ceiling and the floors carpeted with superior velvet tapestry," according to the editor of *Humphrey's Journal,* who concludes, after describing the "superb rosewood furniture," by writing: "On the wall we find the Daguerreotypes of Presidents, Generals, Kings, Queens, Noblemen—*and more nobler men*—men and women of all nations and professions."

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In 1856 Brady paid the fare to bring Alexander Gardner from Scotland to New York. From then until 1863, when Gardner left Brady to cover the Civil War as a free-lance photographer, the two men made an ideal working team. An experienced photographer, especially in the wet-plate process and in enlarging, Gardner organized Brady's establishments to make impressive, delicately retouched and profitable monumental portraits. In 1858 Brady made Gardner manager of his Washington gallery. Brady's business flourished. Early in 1860 he moved his New York gallery for the third and last time. Always located on Broadway, this time he moved to Tenth Street, opening the most ornate, elegant, and fashionable gallery of the day. The imperials of the mighty covered the reception-room walls. The fashionable came to add their pictures to the roster of the distinguished, and all flocked to Brady's after the visit of the Prince of Wales.

One photograph that Brady himself took on February 27, 1860, changed the entire course of his life. Abraham Lincoln said of this picture two years later, "Brady and the Cooper Union speech made me President of the United States." Brady's portrait of the tall, unbearded lawyer introduced Lincoln, through the illustrated press and Currier and Ives prints, as a man of profound dignity and inner strength. This was only the first of many sittings Lincoln was to give Brady.

It was with Lincoln's election and the beginning of the war that Brady lost interest in collecting a gallery of the illustrious and determined to document through photography the entire Civil War. His historic pictures enabled people to follow the course of battle, to be witness to scenes of actual conflict, and to feel the devastations of war.

Brady visited Lincoln, who wrote "Pass Brady" on a piece of paper, gave him his blessing but no money, and cautioned him that there would be no money forthcoming for such a project. Brady did not need money when the war started. By the time it was over he had spent his fortune of more than $100,000, and owed $25,000

FRANÇOIS D'AVIGNON, Portrait of Mathew B. Brady. *Lithograph, 1850. First published in* The Photographic Art Journal, *January, 1851. Courtesy George Eastman House, Rochester.*

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BRADY STAFF, Portrait of Mathew B. Brady. *About 1863. By one of Brady's assistants. Courtesy Gernsheim Collection, London.*

more to Anthony's for photographic materials. But, in the beginning, every man from buck private to general had to have his picture taken and ordered *cartes de visite* by the dozen; the entire day there were lines before Brady's establishments. The cheap and popular tintype Brady left to others, who took literally millions in army camps and bivouac areas.

Brady took many of his best men with him into the field; by war's end he had financed twenty teams which had covered practically every major engagement in every theater of war. Each was equipped with a wagon of photographic material which the soldiers dubbed a "What-Is-It?" wagon. Alexander Gardner and his son James were with the Army of the Potomac; Timothy H. O'Sullivan was at Gettysburg and Richmond; and others whose names are known, remembered by a credit line given below pictures in albums published after the war, were J. F. Coonley, C. N. Barnard, Louis H. Landy, T. C. Roche, William R. Pywell, David Knox, Samuel C. Chester, and D. B. Woodbury. The Confederate Army's most prominent photographer, George F. Cook of Charleston, was one of Brady's helpers.

Brady himself took the first pictures of the war, the rout at Bull Run. He returned with his wagon and a number of negatives which the press hailed as "reliable records," buying them for wood engravings and lithograph illustrations. Again beneath most pictures, this time of war, appeared the credit line "From a photograph by

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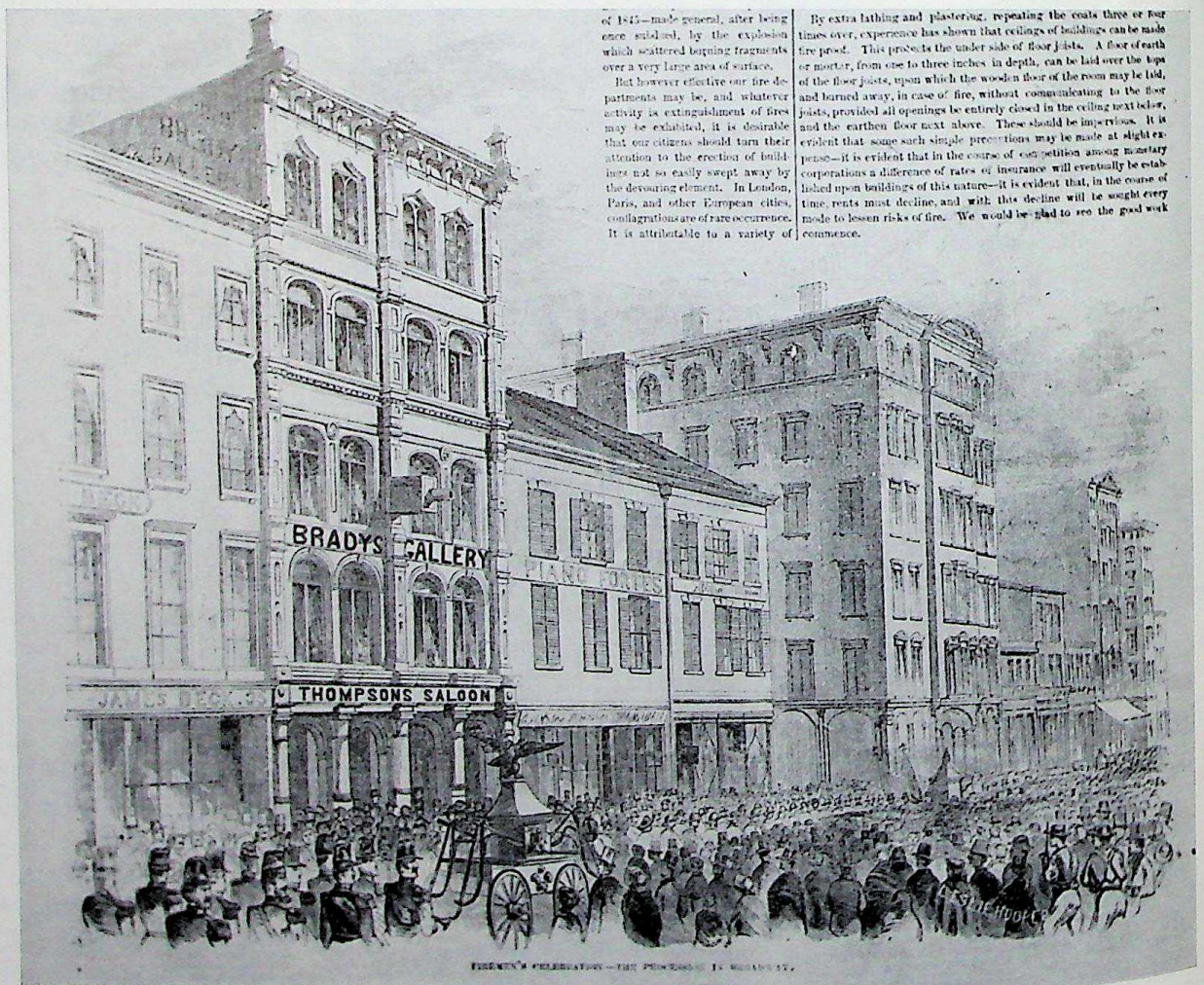
Brady." He had organized the first newspicture agency.

The War Department suddenly saw the value of photography and assigned George M. Barnard to the Engineers to take pictures of army installations and the terrain. Barnard's best war pictures were made as he accompanied General Sherman on his march to the sea.

It took strength of purpose and disregard of danger to coop oneself up in a wagon which invited a marksman's bullet, and prepare glass plates in the semi-darkness for cumbersome cameras like the popular stereo and the 8-by-10-inch view camera. Too slow to stop action, Brady and his men trained themselves to see and take grim still lifes which reflected the action frozen in death. The battlefield, littered like an upturned wastebasket, showering papers and pictures amidst the ungraceful, sprawling dead, made for poignant pictures of readily imagined fierce action.

Oliver Wendell Holmes saw Brady's own pictures that he took at Antietam and wrote in the *Atlantic*, "These terrible mementoes of one of the most sanguinary conflicts of the war, we owe to the enterprise of Mr. Brady of New York. . . . Who wishes to know what war is, look at this series of illustrations."

It was the sale of stereo cards which Gardner hoped



BRADY STAFF, Brady's Gallery. *Wood engraving from a photograph, about 1853. Brady's ornate and elegant establishment was opened on Broadway above Thompson's Saloon, 1853, where he placed his own sign and a huge camera. Engraving made from "A photograph by Brady." From* Gleason's Pictorial Magazine. *Courtesy George Eastman House.*

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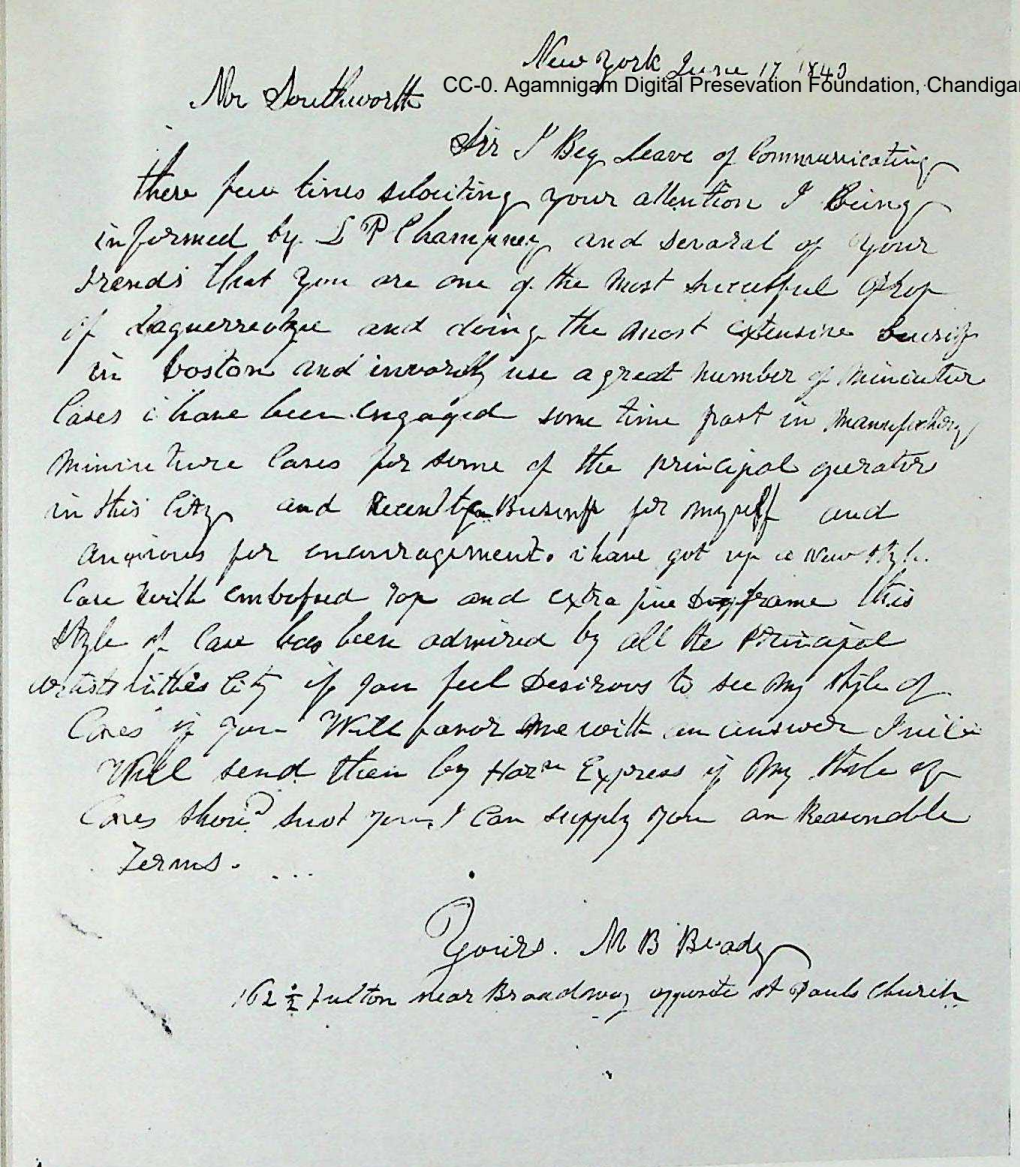

New York June 17 1843

Mr Southworth

Sir I Beg Leave of Communicating
these few lines soliciting your attention I Being
informed by L P Champney and several of your
Friends that you are one of the most successful Prop
of daguerreotype and doing the most extensive Business
in boston and invariably use a great number of miniature
Cases i have been engaged some time past in manufacturing
miniature Cases for some of the principal operators
in this City and Recently Business for myself and
anxious for encouragement. i have got up a New Style
Case with embossed top and extra fine Dog frame this
Style of Case has been admired by all the Principal
artists in this City if you feel Desirous to see my Style of
Cases if you Will favor me with an answer I will
Will send them by Harn Express if my Style of
Cases should suit you I Can supply you an Reasonable
Terms. . . .

Yours. M B Brady
162½ Fulton near Broadway opposite St Pauls Church

A letter definitely by Brady and signed by him, dated June 17, 1843, when he was making jewelry and daguerreotype cases in New York. Courtesy George Eastman House, Boyer Collection.

would be a source of income when he opened his gallery in Washington a year after he left Brady. What caused them to separate is not definitely known, but money matters could well have been behind it. Brady owed Gardner money for services as he owed Anthony for supplies. Some of the prints Gardner took for Brady during the war Brady must have given him when they parted in lieu of salary owed. These photographs appeared in albums along with pictures identifiable as Gardner's or his son's taken after they left Brady.

No matter what happened, Brady's resolve never lessened; he persisted in recording the nation's greatest conflict. His galleries in New York, without him, made portraits of visiting celebrities; this income supported Brady's war pictures. He and his teams took thousands of grave and penetrating documents. Grant's march on Richmond was a nine-month campaign. T. C. Roche and Tim O'Sullivan were along most of the time, exposing themselves again and again in the midst of bombardment to get a picture. Brady came to Richmond immediately after the surrender. He called on General Robert E. Lee, whom he had photographed in Washington, and convinced the revered leader of the Confederate Army to pose with his son and his aide, Colonel Taylor; they sat on the back porch of Lee's home on Franklin Street. This is one of Brady's greatest historic photographs.

In Washington the returning armies again lined up at Brady's for pictures to compare their war-lined faces

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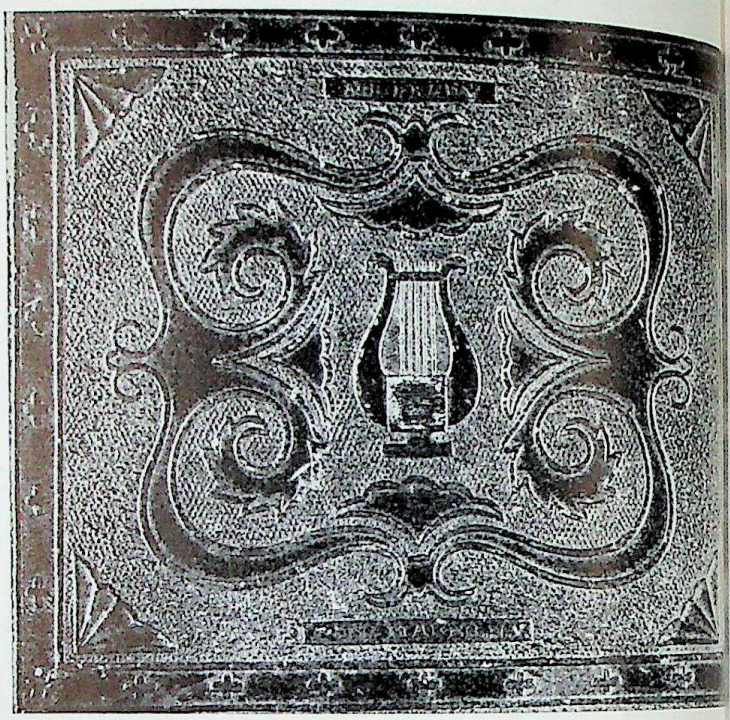

Rare daguerreotype case, made in New York, and signed M. B. Brady. On opposite page is a detail of the name. Brady was in this business from 1841 to 1844, when he opened his first gallery. Courtesy George Eastman House.

with the proud face of youth Brady had captured when they sat for him the day they donned their uniforms. General Sherman and his staff came for a group picture but without General Blair. Brady or one of his assistants took the general at a later date, and pasted the deliberately posed and perfectly proportioned picture onto the board already imprinted with his name.

The excitement of the postwar period in Washington and in New York died down; business at Brady's stood still. His wife, Julia, was ill; Brady was broke. People wanted to forget the war; there was no market for war pictures. To pay Anthony's bill for supplies Brady relinquished a duplicate set of his war negatives; he sold his New York studio and some real estate he owned.

The War Department, in July, 1874, paid a storage bill Brady owed amounting to $2,840, for which they secured a large number of photographic negatives of war views as well as pictures of prominent men. General Benjamin F. Butler questioned the War Department's title to this property. He and General James A. Garfield (later President) evaluated the collection at $150,000 and succeeded in getting an appropriation of $25,000 paid to Mathew B. Brady on April 15, 1875. How many pieces were in the collection? For twenty-two years no one took the time to find out; meanwhile an untold number of glass plates were broken, irreparably scratched, or lost. The first catalogue in 1897 disclosed 6,000 plates still in good condition.

A third representative group of negatives, the Brady-Handy collection, was recently purchased by the Library of Congress for $25,000, paid to the two daughters of Levin C. Handy, Brady's nephew-in-law. Handy had come to Washington in 1866 at the age of twelve seeking work, and within two years Brady had made him into a fine portrait photographer. Handy ran the gallery in Washington, continuing Brady's practice of securing the distinguished and the fashionable to sit for portraits.

After the death of his wife, Brady made his home with his nephew. One day in 1895 Brady, now practically blind, was run over by a vehicle. He recovered and went to New York City, where he was planning an exhibition of his war photographs, but on January 15, 1896, two weeks before the show opened, he died.

Mathew B. Brady lies buried in Arlington Cemetery with the great Civil War heroes whom he photographed and whom the nation knows as living men primarily because of one man whose most honorable medal was a by-line "Photograph by Brady."

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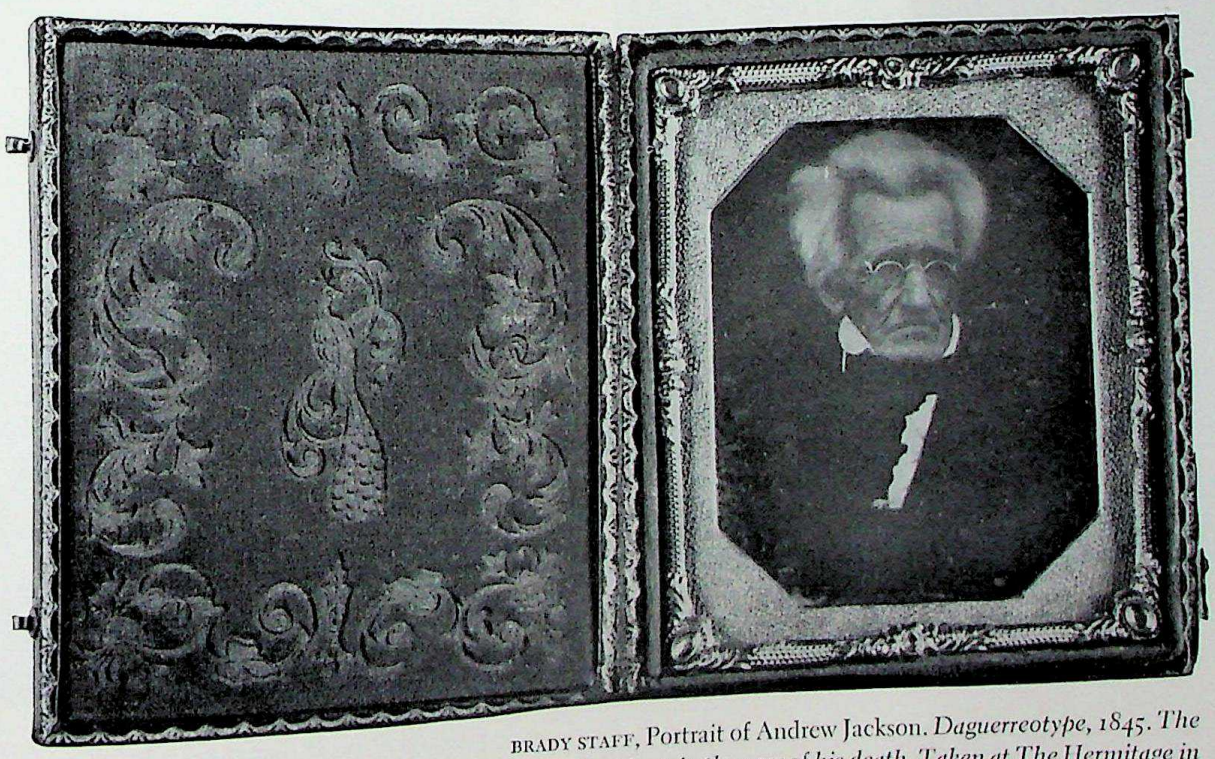

BRADY STAFF, Portrait of Andrew Jackson. *Daguerreotype, 1845. The seventh President, in the year of his death. Taken at The Hermitage in Nashville, where Brady had sent a team to make sure that Old Hickory would be included in his proposed Gallery of Illustrious Americans. Courtesy George Eastman House, a gift of A. Conger Goodyear.*

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MATHEW B. BRADY

above: Portrait of the Duc de Chartres. 1861. *Robert d'Orléans, Duc de Chartres, grandson of King Louis-Philippe of France, Captain in the United States Army 1861-62. He took the oath of allegiance but served without pay.*

left: Portrait of Cyrus West Field. 1858. *Taken in the year when Field laid the transatlantic cable between the United States and England.*

opposite page, left: Portrait of Jefferson Davis. 1860. *Taken in Washington the year before Davis became president of the Confederate States.*

opposite page, right: General Robert E. Lee and Staff. 1865. *At left is Major General George Washington Custis Lee, son of General Lee; at right Colonel Walter Taylor. One of five photographs Brady took of Lee on the back porch of his house on Franklin Street in Richmond.*

All four, courtesy Chicago Historical Society.

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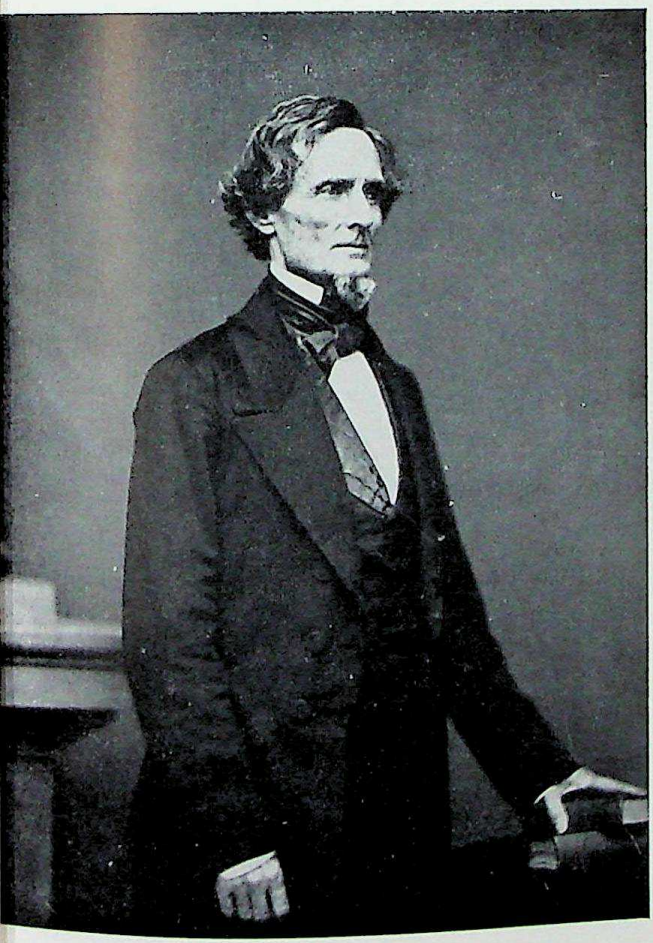

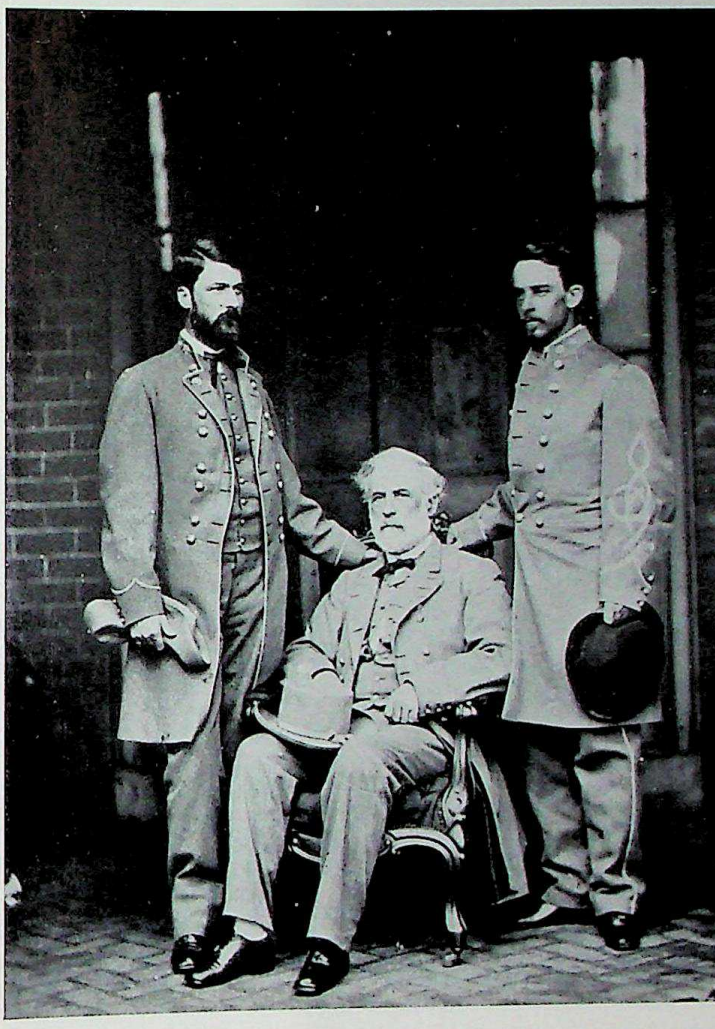

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ALEXANDER GARDNER, President Lincoln and General McClellan on the Battlefield of Antietam. *Wet-plate photograph, October 1862. Courtesy George Eastman House.*

Two tintypes, one of an unknown corporal in the uniform of the Union Army, the other of the only identifiable Negro soldier of the 200,000 who served— Sgt. J. L. Baldwin of Company G, 56th U.S. Colored Infantry, organized August, 1863. Photographer unknown. Courtesy Chicago Historical Society.

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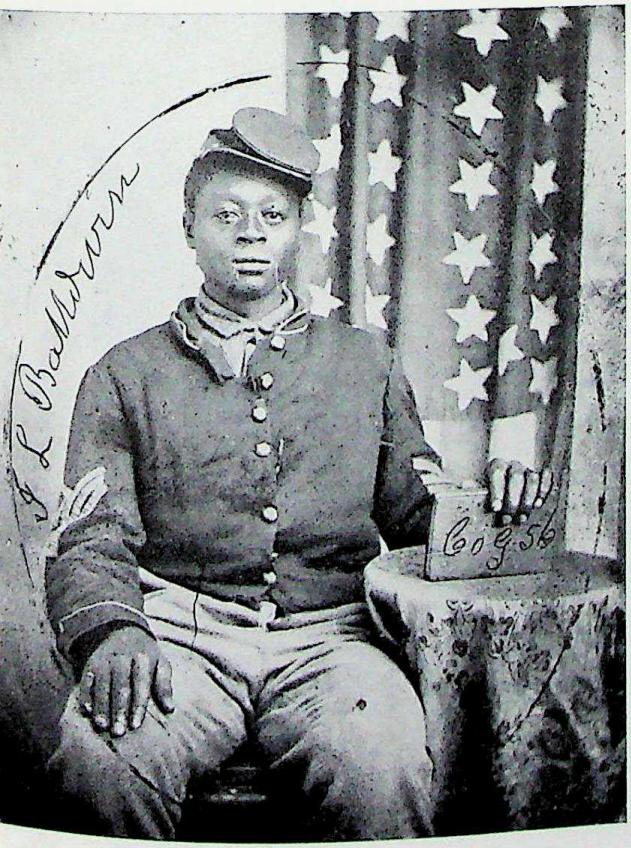

GARDNER, Portrait of Lewis Payne. *Wet-plate photograph, about 1865. Conspirator in the assassination of President Lincoln. On the night of April 14, 1865, he attacked Secretary of State William H. Seward with a knife. Courtesy George Eastman House.*

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left: BRADY STAFF, Ruins of Richmond, Virginia. *April 12, 1865, by an unidentified Brady team. Courtesy George Eastman House.*
below, left: TIMOTHY H. O'SULLIVAN, Quarters of Men in Fort Sedgwick, Generally Known as Fort Hell. *May, 1865. Print by Alexander Gardner.*
below: GARDNER, Home of a Rebel Sharpshooter, Gettysburg. *Wet-plate photograph, 1863. Both, courtesy Chicago Historical Society.*

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below: BRADY STAFF, On Deck of a Union Warship. *Wet-plate photograph, 1864. Stamped "Brady" on mount, it was taken by an unknown team Brady sent out to cover the navy.*
opposite page, above: O'SULLIVAN, Pontoon Bridges Across the Rappahannock Used at the Battle of Fredericksburg. *Wet-plate photograph, December, 1862. Both, courtesy George Eastman House.*
opposite page, below: BRADY AND GARDNER, Ambulance Drill by Zouaves. 1862. *Courtesy Chicago Historical Society.*

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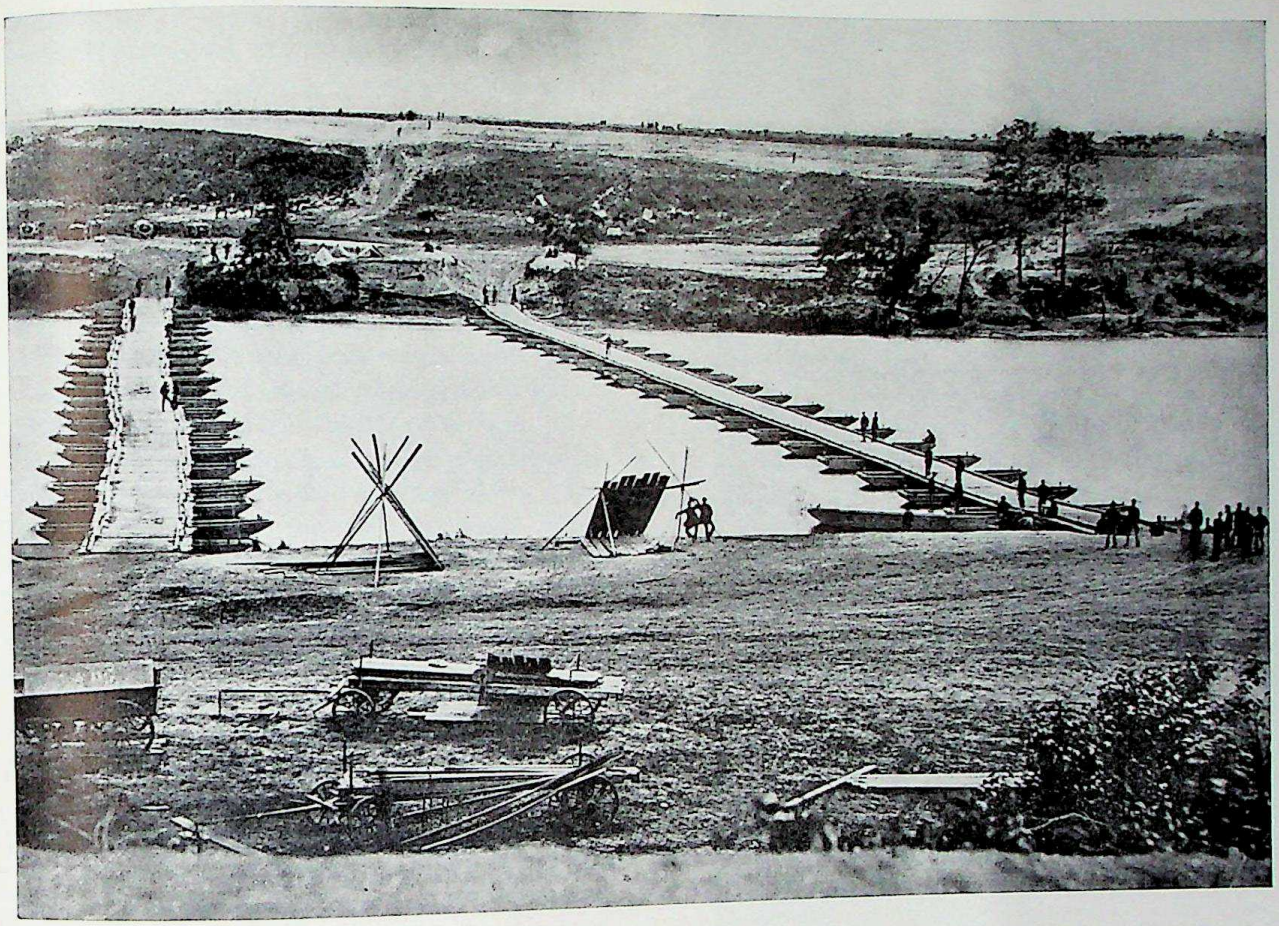

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16. Pioneers of the West

With the cry of gold in 1849 and the race for it across the country, a daguerreotypist, Robert H. Vance, trundled along with his equipment in the wake of the miners with their tools. It is evident that Vance was in California during 1849 and 1850, for in 1851 he brought to New York three hundred whole-plate daguerreotypes of miners panning gold and a number of magnificent views of California's scenery. A contemporary account describes and praises the daguerreotypes and then reports that he sold the collection to Jeremiah Gurney for much less than the $3,700 he spent in securing the silver images and their fitted plush cases.

The collection's next owner was J. W. Fitzgibbon of St. Louis, himself a daguerreotypist of the expanding frontier, who showed Vance's work in his gallery. The final disposition of the collection remains a mystery; no trace has existed for more than seventy-five years.

Vance learned the wet-collodion process while he was in the East, substituting an 11-by-14-inch camera for the smaller daguerreotype and returning to California to open a studio in San Francisco. An album of sharp prints taken in 1859 on 11-by-14-inch plates, attributed to Vance and recently acquired by Eastman House, depict temporary camps along the sand and rock bars and mining operations in dried river beds.

Another album of original photographs published in

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1856–1857 by Herre and Bauer at the office of the *San Francisco Journal* are pictures by George R. Farden of the wooden streets, intimate parks, views of the sea, and the tall four-story buildings of the lively city on the Pacific.

One of the really gifted cameramen who photographed the West was Timothy H. O'Sullivan, who had been with Brady at Gettysburg and Richmond and who had seen three full years of misery through his ground glass. He had survived, but not even Brady himself could have lured him back into the sophisticated atmosphere of the studio. Celebrities and cities, though he had been born in New York, held no more fascination for him.

He sought continued adventure through his camera: the sight of unexplored lands and out-of-the-way places. The government, in 1867, sponsored a geological exploration of the fortieth parallel, to be directed by Clarence King. O'Sullivan was official photographer for the three years of the expedition. He took pictures of nature's grandeur in the falls, lakes, rivers, and mountain ranges of the towering Rockies, and he went down hundreds of feet inside mines to take pictures by magnesium flares. What an impression they made as the nation saw them reproduced in the illustrated press!

In 1870 O'Sullivan came down from the mountains to take his cameras into the steaming jungles of Panama. For a year he was with the Commander Selfridge expedition, which the government had sent out to survey and map a possible ship canal across the Isthmus of Darien, as the Isthmus of Panama was then called. Insects, swamp fevers, impenetrable jungle, and wild beasts were among the hardships that he encountered, and often made it as difficult to secure pictures as it had been during the war. O'Sullivan endured it all and was not deterred from his purpose. Using an 11-by-14-inch camera as well as a stereo, he made hundreds of negatives, turning them over to Commander Selfridge who four years later incorporated them into his official report.

The next year O'Sullivan was again in the West. Thoroughly trained in the rough life required by expedition photography, he was immediately signed up by Lieutenant George M. Wheeler, who was directing a series of surveys in the Southwest. O'Sullivan was to make two subsequent annual expeditions with Lieutenant Wheeler, skipping 1872, when he went East. The very first year O'Sullivan made more than three hundred negatives, using large cameras to retain all the detail possible in contact prints of the majestic scenery of the canyons of the Colorado River.

In 1873 the Wheeler survey explored Arizona, where O'Sullivan photographed the White House ruins at Canyon de Chelly, one of his most superb pictures. The name is a distortion from the Navaho, *Tse-Yee*, meaning "within the rocks." The drying up of the wells because of a drought which lasted for most of the later thirteenth century made the Indians abandon their hallowed cliff dwellings.

In the O'Sullivan picture the overhanging cliff is given prominence and the texture emphasized by the striking sidelight cutting across the striated wall. It is a brilliantly envisioned wall seen floating above the ancient dwellings, which are set in a semicircular cave on a ridge seventy feet above the canyon bed. Below, two barely discernible men hold a rope attached to two other men standing on the roof of the ruins.

Not much is known of O'Sullivan after the 1874 expedition conducted by the now-promoted Captain Wheeler. It is believed that he worked off and on for Alexander Gardner in Washington. It is definitely known that both Brady and Gardner recommended him for a job as chief photographer in the Treasury Department, for which he was hired. He worked in Washington about six months, fell ill, and resigned. Two years later the scant record lists O'Sullivan's death, January 14, 1882, age forty-two, perhaps forty-three. His exact birth date was never certain. What is certain is that in his sick body, suffering with tuberculosis, was a courageous spirit, an alertness to the art of the camera, and an indomitable will to leave a living record of the terrors of war and the splendors of nature.

A contemporary of O'Sullivan who lived a year less than a century, from 1843 to 1942, was William Henry Jackson. He served the year 1862 in the Civil War. His enlistment over, he resumed work in a Vermont photographer's studio. He left in 1866 for St. Louis, where he become a bullwhacker of an ox train crossing the plains. He sketched, worked as a hired hand, tried prospecting when he was in California early the next year, and then hired on to drive wild horses back east as far as Omaha. Here, in late 1867, his career as a photographer really began in partnership with his brother Edward, who came out from their home town of Peru, New York. They opened a studio, but Edward soon tired of photography and returned to farming.

In 1869 Jackson took a series of pictures along the Union Pacific railroad, trading photographs for bunk and board with the section hands. He roamed the country with his camera, going to Salt Lake City and the Black Hills of Wyoming, taking side trips, and returning to some out-of-the-way station where he caught a train for

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Omaha and his gallery. Dr. Ferdinand V. Hayden of the United States Geological Survey of the Territories hired Jackson in 1870 to join a three-month expedition from August to November, at no pay but expenses and permission to keep the negatives with the proviso that prints be made available to Hayden when he requested them.

Jackson photographed along the Oregon-Mormon trail, the North Platte River where a dry gorge was named Jackson Canyon in his honor, along the badlands of Wyoming, the Uinta Mountains, down the Green River through Bridger's Pass, then on to Pike's Peak and Denver in the cold and snow of an early winter. Jackson liked the life. He deliberately went to Washington to sign up with Dr. Hayden as official photographer for the following year. He closed his studio in Omaha.

Yellowstone was the expedition's field of operations in 1871. Jackson took an 8-by-10-inch and a stereo camera plus 200 pounds of equipment, mostly packed on his mule "Hypo." Jackson, who sketched and painted water colors when he did not photograph, was pleased to find the famous New York artist, Thomas Moran, accompanying the expedition to paint Yellowstone's scenic marvels. Other members of the party were divers scientists, geologists, topographers, and naturalists, who recorded in cold reports what Jackson photographed so beautifully. Nine of his photographs saved Yellowstone for the people of America, making an area of 3,578 square miles into the country's first national park.

Dr. Hayden bound nine of Jackson's best photographs, including Mammoth Hot Springs, Tower Falls, Grand Canyon of the Yellowstone, The Great Falls, and the Crater of the Grotto Geyser, into individually gold-embossed volumes for each member of the House and Senate. The bill passed by a good margin, and President Grant signed it March 1, 1872, removing one of the nation's wonders forever from commercial exploitation for private gain.

The third expedition of Dr. Hayden extended exploration of Yellowstone, but Jackson took off with one assis-

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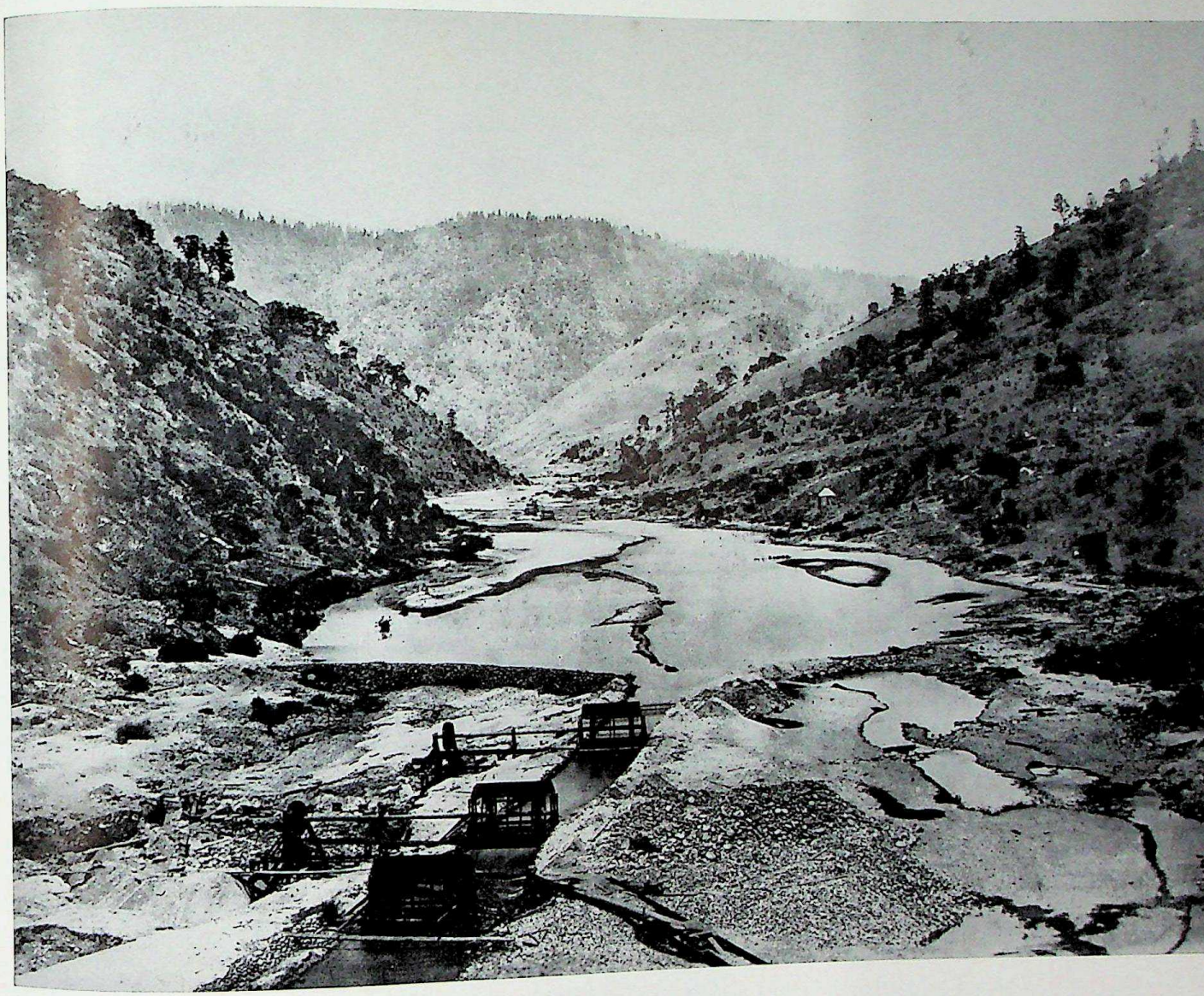

ROBERT H. VANCE, *Wet-plate photographs, 1859.*
left: View of Maine Bar from the East.
above: View of Poverty Bar to Oregon Bar.
River-Bed Mining in California.
Both, courtesy George Eastman House, Rochester.

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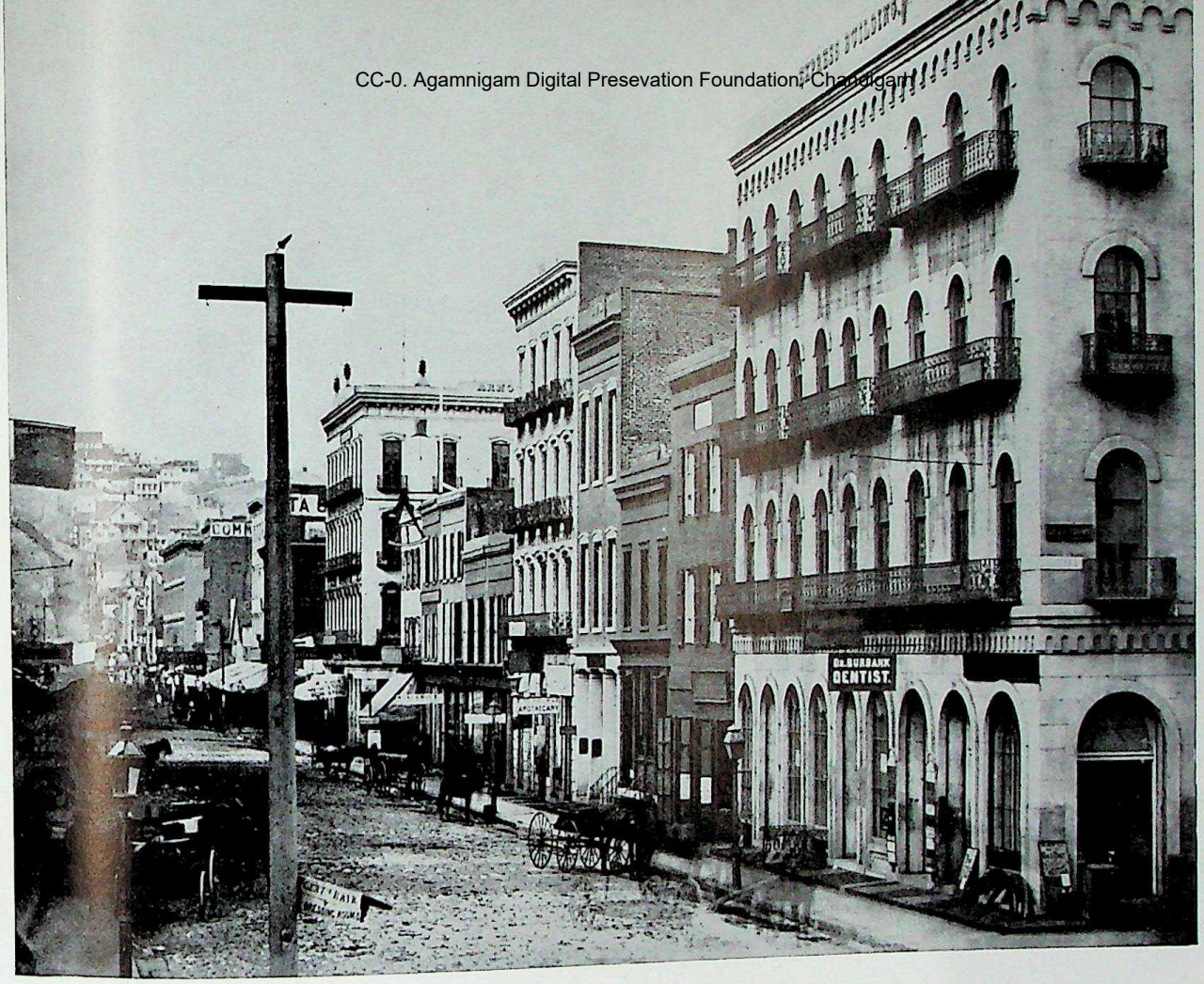

GEORGE R. FARDEN, Three Views of San Francisco.
Wet-plate photographs, 1856. Courtesy George Eastman House.

tant and three different-sized cameras for the Great Teton Range near the head of Snake River. In the snow and cold at 11,000 feet he took some superb panoramic views of the Three Tetons as they towered above him. The highest, 13,858, named after Dr. Hayden, was 7,000 feet above Jackson's Lake, the second natural site named after the dedicated photographer.

In the 1873 expedition Jackson directed a botanist, an entomologist, a cook, and two assistants as a unit. Starting from Long's Peak in Estes Park, Jackson took a series of connected views, panoramas, and close-ups of Gray's Peak, Pike's Peak and Torrey's Peak, the icy front-range summits of the Rocky Mountains. At the foot of the mountains Jackson photographed the eroded sandstone shapes of Monument Park and the Garden of the Gods. On August 24, Jackson photographed for the first time The Mount of the Holy Cross, located in the Red Table Mountains of Colorado at 14,176 feet. The snow here lies permanently frozen in a hundred-foot crevice in the shape of a cross 1,500 feet in length and 700 feet in width.

On the same expedition Jackson photographed the weathered and deserted cliff dwellings of the Mesa Verde, now also a national park, in the San Juan Mountains of Colorado. Jackson Butte of the Mesa Verde was named after him on that trip. The following year, 1875, he again visited the region; this time, in addition to his usual cameras, he hauled along on an extra mule a camera capable of taking negatives 20-by-24 inches. What skill it required to coat evenly a glass plate two feet wide, expose, and develop, all in a maximum of 15 minutes while the collodion was still moist!

Jackson's impressive record, according to a catalogue

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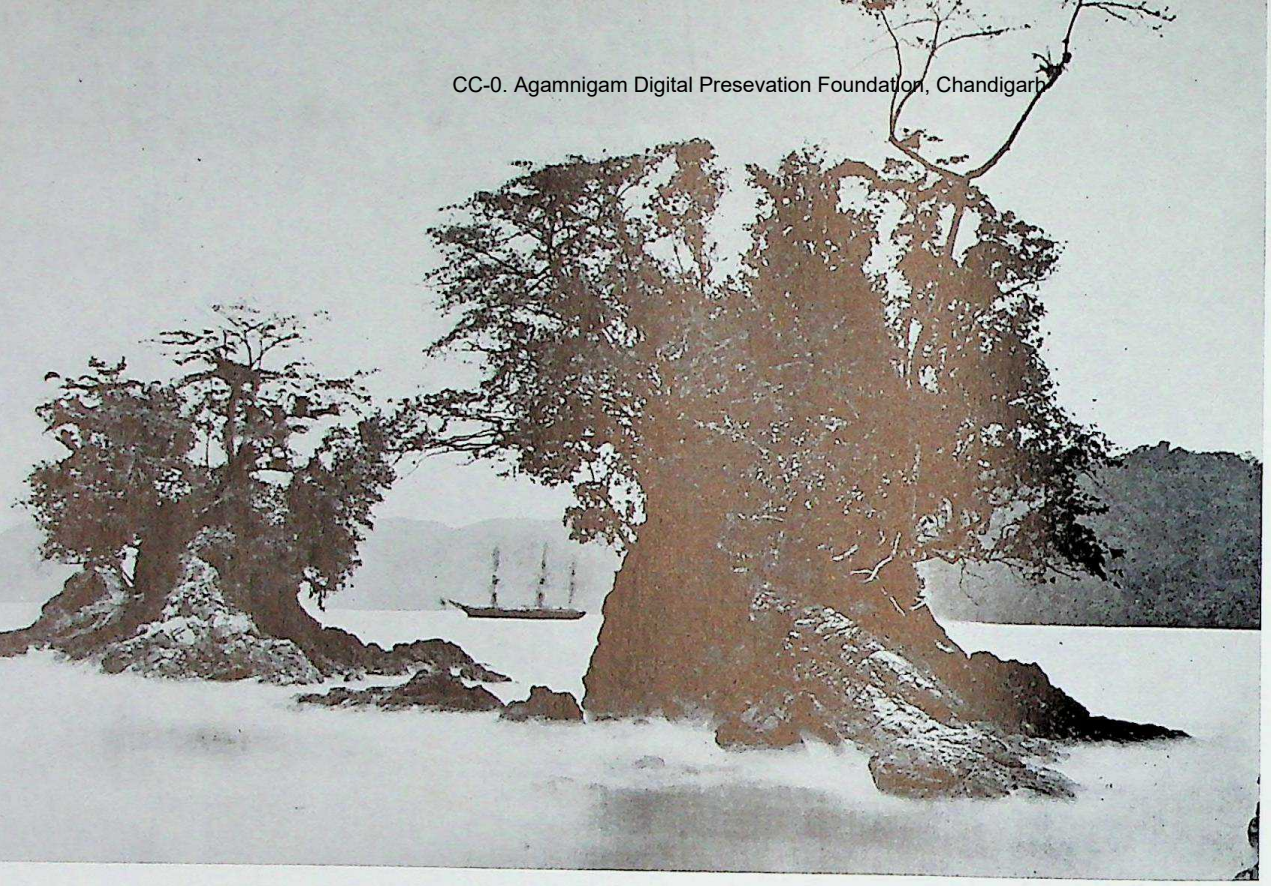

TIMOTHY H. O'SULLIVAN. *Three wet-plate photographs.*
above: Panama-Limon Bay at High Tide. *1870.*
right: Self-Portrait. *From a stereograph, 1870. Taken during the Selfridge Darien (Panama) expedition.*
opposite page: Black Canyon, Colorado River. *1871. The photographer's boat and equipment.*
All three, courtesy George Eastman House.

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of his photographs published in 1875 which covers his seven expeditions with Dr. Hayden, consists of 973 stereos, 308 negatives 5-by-8 inches, 107 11-by-14, 526 8-by-10, and 12 20-by-24. The best day he could expose only thirty-two negatives. Exposure was by hand cap, the smallest of openings used to gain the sharpest of definition demanding 15 seconds exposures.

The year 1876 Jackson devoted to the construction of a model based on his photographs of the cliff dwellings for the Philadelphia Centennial. The next year was a lost one. Exploring the Pueblos of New Mexico, again for Dr. Hayden, he used the new dry plates manufactured commercially for the first time. What a heartbreaking experience to see a year's results all come out black from the developer! The manufacturer's guaranty did replace the defective plates free of charge.

Jackson opened a studio in Denver three years later. All over the world he sold famous views of nature on stereoscope cards, large prints suitable for framing, and smaller sizes to book publishers for illustrations. The railroads of the west bought many of his old prints and commissioned him to take new pictures for promotional purposes. His photographs made people aware of the breathtaking beauty to be seen in America; and trips to the national parks became one of the country's grand tours. The millions of photographs of Old Faithful and the other wonders of Yellowstone taken with advanced equipment have never surpassed the pictures taken by Jackson with his messy wet plates and unwieldy cameras.

Not the wonders of nature but rather soldiers, buffalos, and the landscape of the "Big Open," as he called the prairie and badlands between the Yellowstone and Missouri Rivers, were the subjects for the unique pictures of the frontier taken by Laton Alton Huffman. Huffman became post photographer at Fort Keogh, Montana Territory, in 1878.

In below-zero temperatures Huffman followed the soldiers dressed in their indispensable buffalo coats as they drilled in knee-high snowdrifts. He photographed the officers, men, scouts, trappers, and famous Indian chiefs

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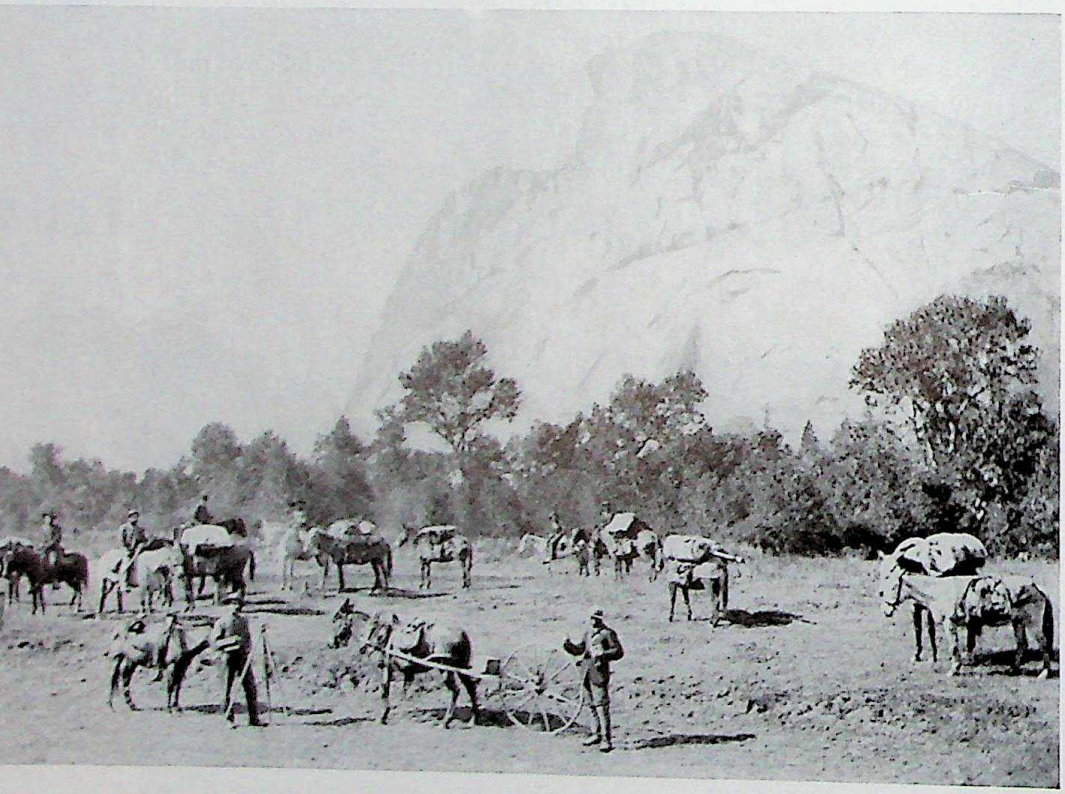
with nostalgic names, Sitting Bull, Spotted Eagle, Two Moon, and Rain in the Face, either in his studio in the fort or in their buffalo-hide tepees surrounded by their squaws and children.

In 1880 Huffman opened a studio in Miles City, Montana, but for days the camera was with him photographing "buffalo by the thousands in every direction," as he recorded on May 12. Three years later the hide hunters with their heavy rifles had killed off hundreds of thousands in just one corner of Montana alone, for hides which brought around $2.50 each. Huffman photographed the willful destruction of the prairie-lording buffalo. Later he photographed hunting parties shooting elk, antelope, bear, and other game, but by 1883 the loping bison killed for hide and tongue was only a topic for conversation around the fire.

In his Miles City studio Huffman photographed such celebrities as Calamity Jane, Teddy Roosevelt, noblemen



O'SULLIVAN. *Wet-plate photographs.*
above: Lieutenant Wheeler's Expedition in the Yosemite. 1871.
O'Sullivan was the official photographer.
right: Canyon de Chelly, Arizona. 1873. *Wheeler expedition.*
Both, courtesy George Eastman House.

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from Europe already pursuing the legend of the red man, and unnamed colorful visitors to the wide open cow town. Cattlemen and cow punchers sat for his camera, mostly in the open. He roamed with them on roundup to secure an honest and impressive graphic record of the straight-backed, pigeon-breasted, unglamorized cowboys who were fighting a losing battle with the sheep herder for the land. Huffman saw the changing frontier, and photographed it honestly and with insight—the homesteader in his sod hut, the barbed wire and the plow, and the closing of the open prairie forever.

Geographical memorials should be named in honor of L. A. Huffman and T. H. O'Sullivan to rank along with Mt. Watkins in Yosemite National Park, Mt. Millers in the Henry Mountains of Utah, Mt. Haynes in Yellowstone National Park, and the Canyon, Butte, and Lake named in honor of W. H. Jackson, all commemorating photographers of historic and artistic prominence.

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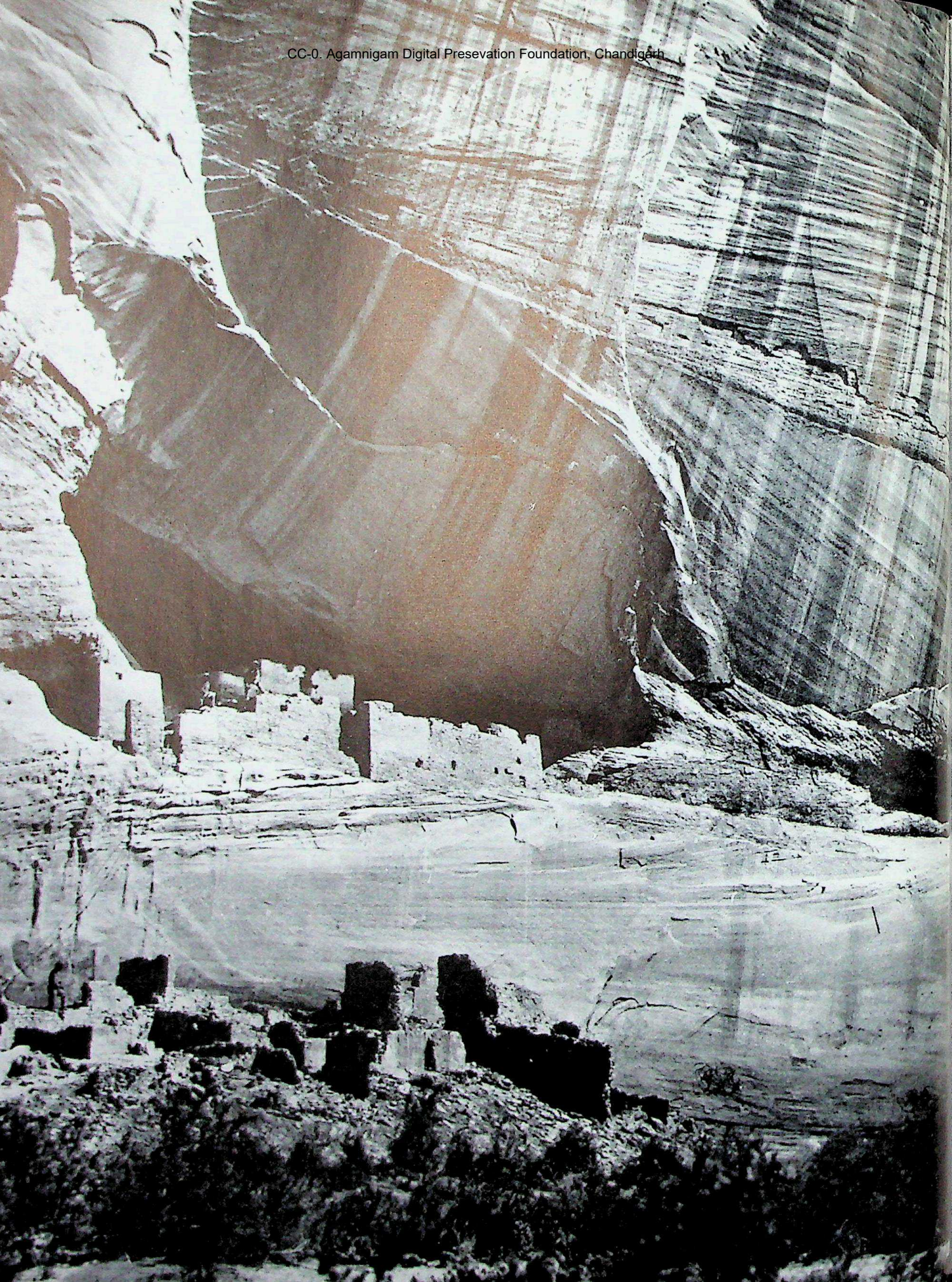

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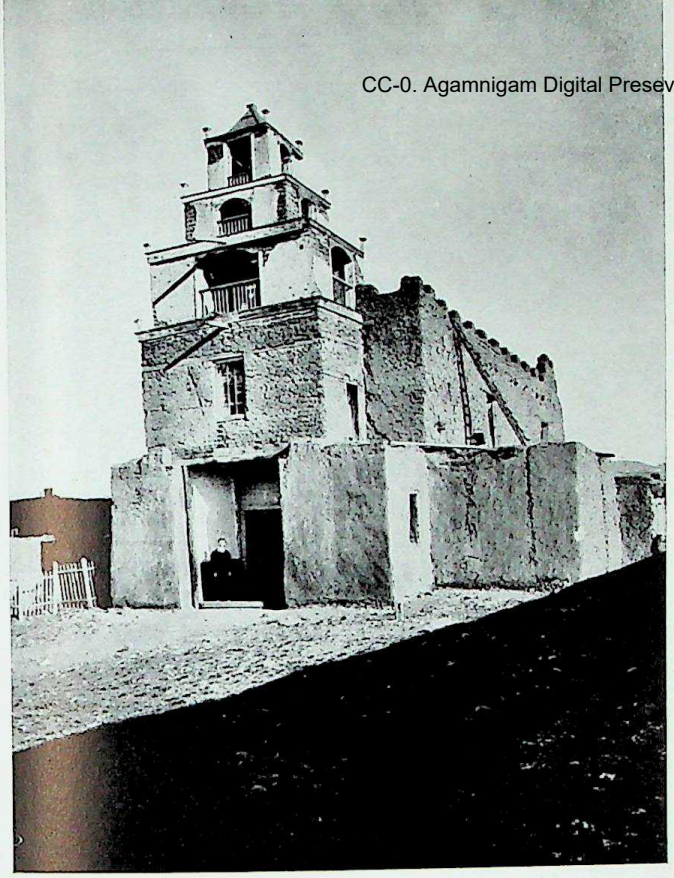

O'SULLIVAN
left: Church of San Miguel, Santa Fe, New Mexico. *Wet-plate photograph, 1873. Wheeler expedition.*
opposite page: Ruins of White House, Canyon de Chelly, Arizona. *Cliff dwellings abandoned in the thirteenth century. Two explorers in the bed of the canyon attached by rope to two others standing on the roof of the ruined house. Wheeler expedition.*
Both, courtesy George Eastman House.

W. H. JACKSON, The Rio San Juan, Colorado.
Wet-plate photograph, about 1873.
Courtesy George Eastman House.

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JACKSON, *above:* Train and Steep Grade in the Canyon of the Rio Las Animas. *Wet-plate photograph, 1876. Courtesy Division of Colorado State Archives and Public Records*
right: Old Faithful, Yellowstone National Park. *Wet-plate photograph, 1870. First picture taken of the geyser. Courtesy George Eastman House.*

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below: JACKSON, Mount of the Holy Cross. *Wet-plate photograph, 1874. Courtesy George Eastman House.*
right: W. H. Jackson in Yosemite Valley, Observation Point. *Wet-plate photograph, 1873. Photographer unknown. Courtesy Denver Public Library, Western Collection.*

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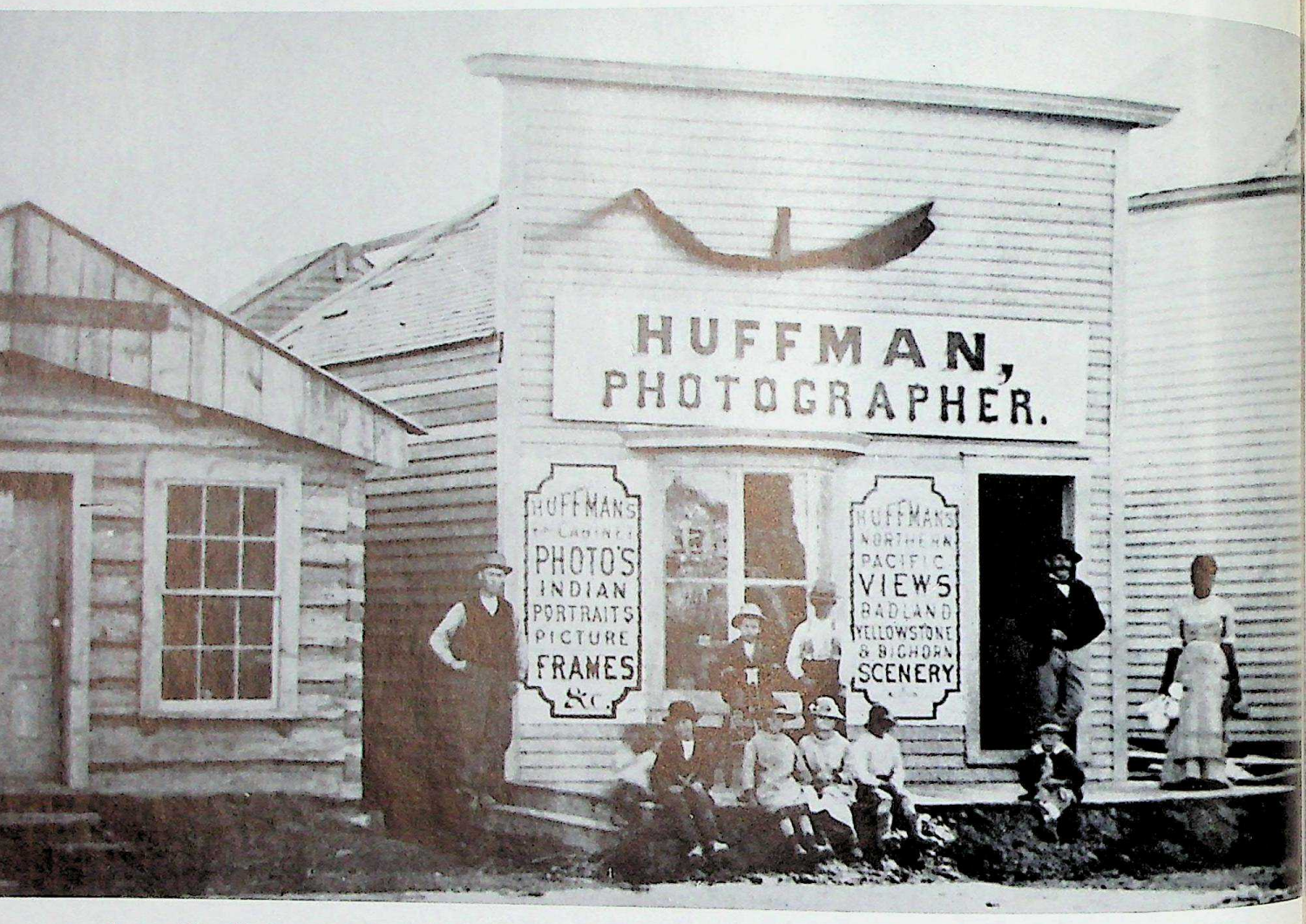

Laton Alton Huffman's studio, in Miles City, Montana, about 1880.
Courtesy W. R. Felton, Sioux City, Iowa.

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LATON ALTON HUFFMAN
left: Typical Sheep Herder.
Taken in Miles City, Montana, photo studio, about 1880.
below: Guard Mounts in Buffalo Coats. *Wet-plate photograph, Fort Keogh, Montana.*
Both, courtesy Mrs. Ruth Huffman Scott, Miles City, Montana.

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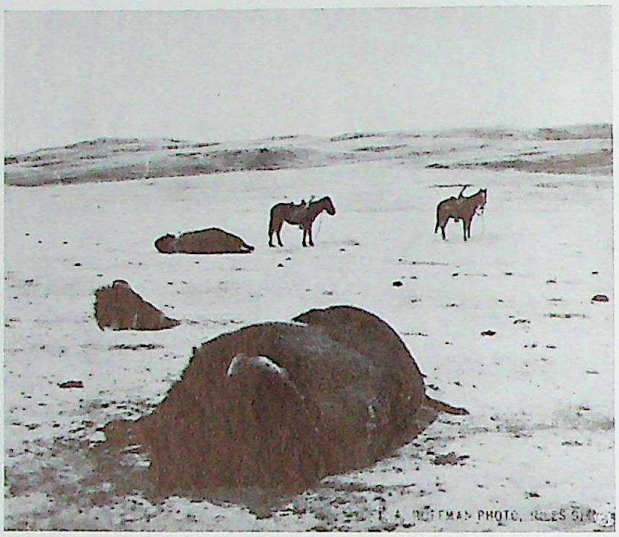

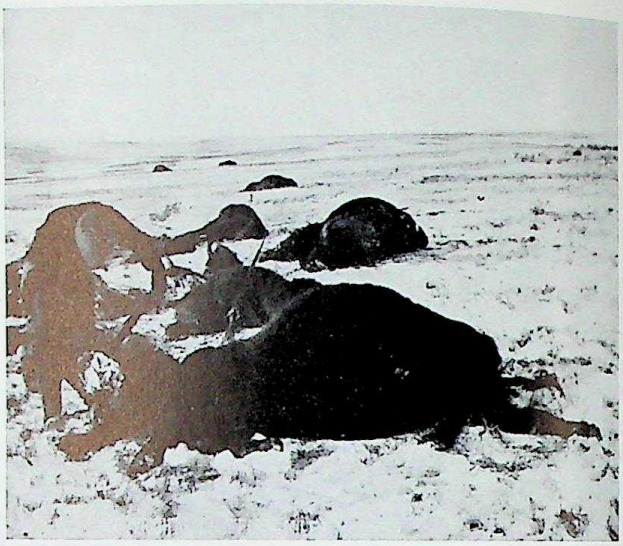

HUFFMAN
above: After the Buffalo Run. *North Montana, 1879.*
right: Taking the Tongues of Buffaloes. *Montana, 1878.*
Both, courtesy Mrs. Ruth Huffman Scott.

HUFFMAN, Red-Armed Panther, a Cheyenne Indian Scout. *Fort Keogh, Montana, 1879. Courtesy Mrs. Ruth Huffman Scott.*

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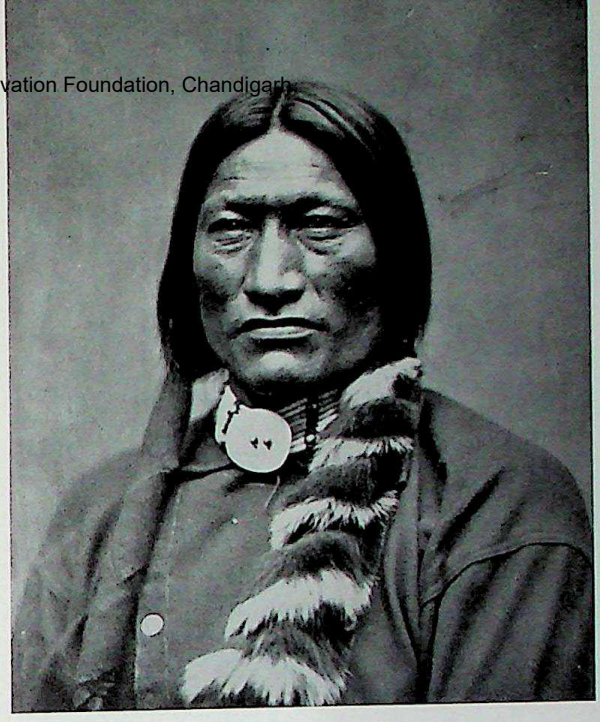
HUFFMAN

right: High Bear, an Ogallalla Sioux. *About 1880. Courtesy Mrs. Ruth Huffman Scott.*

below: Sioux Chief Hump and His Favorite Wives. *Miles City, Montana, 1880. Courtesy W. R. Felton.*



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17.

Muybridge and Eakins—Photography of Motion

One of the great contributors to the invention of the motion picture was born in England as Edward James Muggeride, but changed his name early in life to what he believed was its true Saxon spelling, Eadweard Muybridge (1830–1904). In 1852 he migrated to America and is first mentioned for a series of large photographs he took in Yosemite in 1867. The superb cloud effects printed in from a second negative received praise from admiring critics awarding medals in International Exhibitions; and twenty of these composite photographs were in the first guidebook to Yosemite's wonders.

In 1868, less than a year after the United States government purchased Alaska from the Russians, Muybridge was sent along as official photograher with the military force empowered to take over the newly acquired territory formally.

Ex-Governor Leland Stanford in 1872, according to the traditional story, bet a friend $25,000 that a race horse had all four feet off the ground at one time during its running gait. Muybridge, who had an established reputation as a photographer, was hired to photograph Occident, a famous trotting horse in Stanford's stable. Despite a fast shutter that Muybridge had invented and white sheets covering the track to give extra light, the wet-plate process of that time was too slow to give proof, but there was sufficient indication that the ex-Governor was correct, and Muybridge was asked to continue.

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He was not to resume his experiments, however, for five years. In 1873 he photographed the guerrilla fighting amidst the lava beds in the Modoc Indian War at the California-Oregon border. The next postponement was caused not by an assignment but by a scandal and a murder that sent him to Panama and Guatemala for several years until he felt safe to return to California. In 1874 Muybridge shot and killed his wife's lover. He was acquitted by a jury, which accepted as evidence of Muybridge's temporary insanity testimony given by his former employer who said, "He was most eccentric. In his work he would not take a picture unless the view suited him." Within the California code of honor Muybridge was justified, but it was wiser not to tempt fate and he left the country.

Late in 1877 the truthfulness of a wood engraving based on a Muybridge photograph of the trotter Occident was questioned, since the photograph was admittedly retouched. In June 1878 ex-Governor Leland Stanford invited the San Francisco press to witness Muybridge photographing a trotting horse and a racing mare.

Twelve cameras were set up, each fitted with a drop shutter triggered by a spring or rubber band. From each camera a fine wire was stretched across the track, activated by the iron rim of the wheel of the sulky, which closed an electrical circuit, thereby releasing the shutters one after another.

The track was prepared to concentrate the maximum amount of light for the fastest exposures. The ground was sprinkled with powdered lime; the background screen was intensely white, covered with rock salt; everything was in the brightest sunshine; and, though Muybridge still used wet plates, the collodion had been speeded up by "ripening" or aging.

For photographing the handsome mare Sallie Gardner twelve fine black threads were placed across the track, striking her breast high and releasing the shutters. The resulting photographs proved conclusively that the four feet of a galloping horse are all off the ground only when they are bunched together under the belly.

The English mezzotints depicting pink-coated riders astride galloping hobby horses, with the front feet stretching straight ahead and the hind feet extended behind, were now seen as quaint and the representations of centuries were refuted. Artists all over the world recognized that personal observations, no matter how keen, could not compare with the instantaneous vision obtainable by camera. Frederic Remington and Charles Russell, famous painters of cowboys and horses, were influenced by these revelations of Muybridge's *Horse in Motion*, as was the celebrated French painter of cavalry and battle scenes, Ernest Meissonier.

On May 14, 1880, the San Francisco Art Association presented the first photographs of a galloping horse projected on a large screen by a special magic lantern. It was so realistic, a reporter covering the program wrote, that the only thing missing was the clatter of hoofs. Animated cartoons and the movements of a dance (the sequence photographed in frozen poses so that the music could be played in perfect time to it) had been projected on a screen a decade earlier, but Muybridge had actually presented the first motion picture.

This "zoogyroscope," or "zoopraxiscope" as he later called it, worked on the principle of an old toy, the zoetrope. The Muybridge projector used two glass disks, one containing twelve images revolving in one direction and a second slotted disk, caused to revolve in the opposite direction, which served as a shutter.

Muybridge did not pursue motion-picture photography. Improved machines were to be developed by Professor E. J. Marey, G. Demeney, and the Lumière Brothers in France, and by Thomas A. Edison in the United States, all of whom acknowledged their debt to Muybridge.

Photographing animal and human locomotion was Muybridge's main interest, and for this he received a grant from the University of Pennsylvania, where he stayed for three years until 1887. The eleven volumes published that year under the auspices of the university, *Animal Locomotion: Electro Photographic Investigations of Consecutive Phases of Animal Movements*, cover Muybridge's photographic experiments from 1872 to 1885 and consist of more than 100,000 photographs. The animals shown are not only the domestic dog, cat, and horse, but also moose, elk, bear, raccoon, lion, tiger, monkey, and birds.

Most of his photographs of humans are nudes, a number depicting cripples in abnormal movements, anticipating a great demand by artists who would substitute photographs for live models.

Muybridge retired to England, but returned briefly in 1893 to lecture on animal locomotion at the Columbian Exposition's "Zoopraxographical Hall" in Chicago. He published the *Human Figure in Motion* in 1901, but he never left England again and did little in photography the rest of his days; he died at his birthplace, Kingston-on-Thames, in 1904.

It is not generally known that Thomas Eakins (1844–1916), today accepted as one of America's great nineteenth-century painters, was also an ardent photogra-

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pher. The stark realism and honesty with which, in his painted portraits, he brought out the inherent strength and character of the subject, Eakins tried to achieve as well when he photographed. His strong will and his rejection of clever and fashionable likeness kept him from copying photographs when painting portraits.

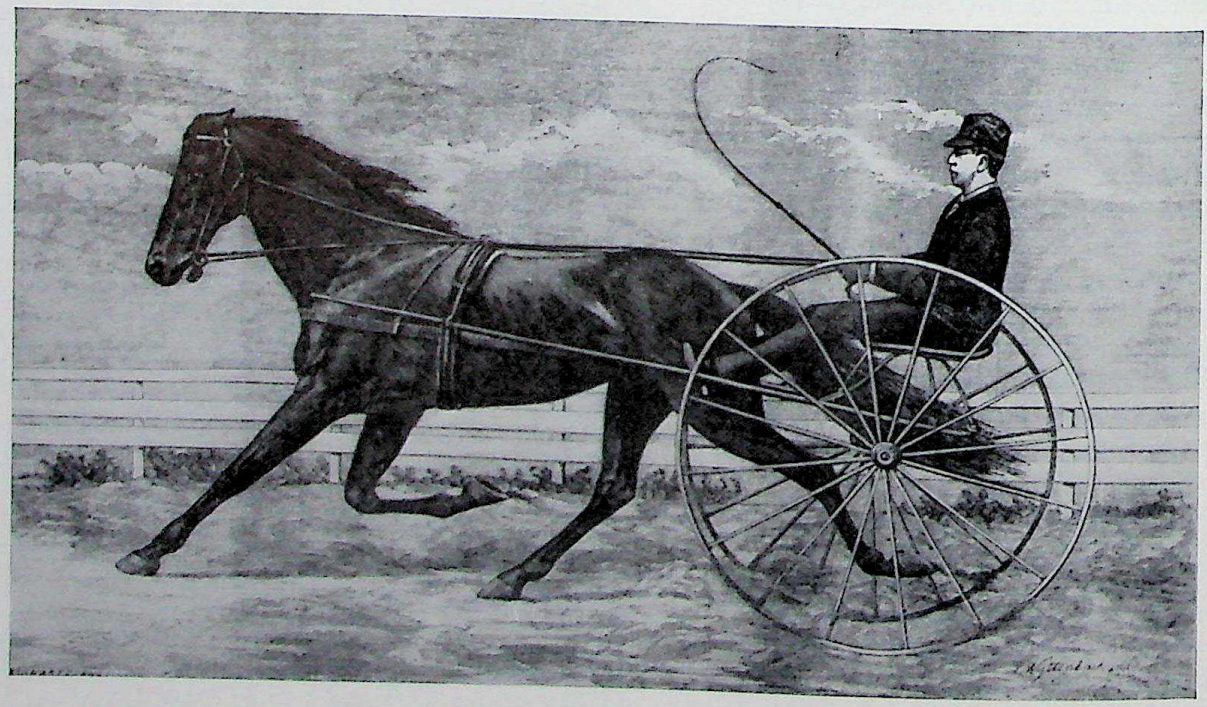
He photographed and painted his favorite younger sister in 1882 (the year she died) and painted their childhood friend, Miss Mary Adeline Williams, "Addie," more than a decade later. Both portraits he made correspond to what he conceived as artistic truth. The blunt, realistic, detailed photograph is an artistic end in itself; the painting constructed stroke by stroke reflects his expert knowledge of anatomy and his skillful draftsmanship. What is inherent in both the painting and the photograph of his sister is Eakins's realistic, humanistic approach to art, stressing within the limitations of each medium the dignity and spirit of the subject.

A friend of Eakins once said that he would not pose for him, for "he would bring out all those traits of character that I have been trying to conceal for years."

Eakins's keen interest in photography prompted him to correspond with Muybridge. In 1879 he recommended a more accurate method of measuring the horse's gait which, however, Muybridge did not adopt. In 1884 Eakins, as head of the Pennsylvania Academy of Fine Arts, the oldest art school in America, invited Muybridge to lecture. He also helped interest people in raising funds for Muybridge to continue his experiments at the University of Pennsylvania. Eakins was appointed a member of the supervising committee.

A brilliant anatomist, Eakins had studied human and animal anatomy for several years at Jefferson Medical College; he embraced enthusiastically the opportunity to collaborate with Muybridge. They soon differed. Eakins's scientifically trained mind readily observed that twelve or twenty-four separate cameras could not follow the speed of a subject exactly. He preferred a simpler and more accurate method, using a single camera. In front of its lens revolved a disc with a hole in it which permitted a series of superimposed distinguishable images to be taken on one plate. It was Eakins's contention that the sequence of movement relating one shape to another throughout an entire action could be followed more easily than the separate actions photographed by Muybridge's multiple cameras.

A man walking, pole-vaulting, running, a woman model jumping or lifting an object, all became fit subjects



EADWEARD MUYBRIDGE, Horse Trotting at 36 Feet per Second.
From a wood engraving after a wet-plate photograph of 1877.
Exposure: 1/1000 second. Courtesy George Eastman House, Rochester.

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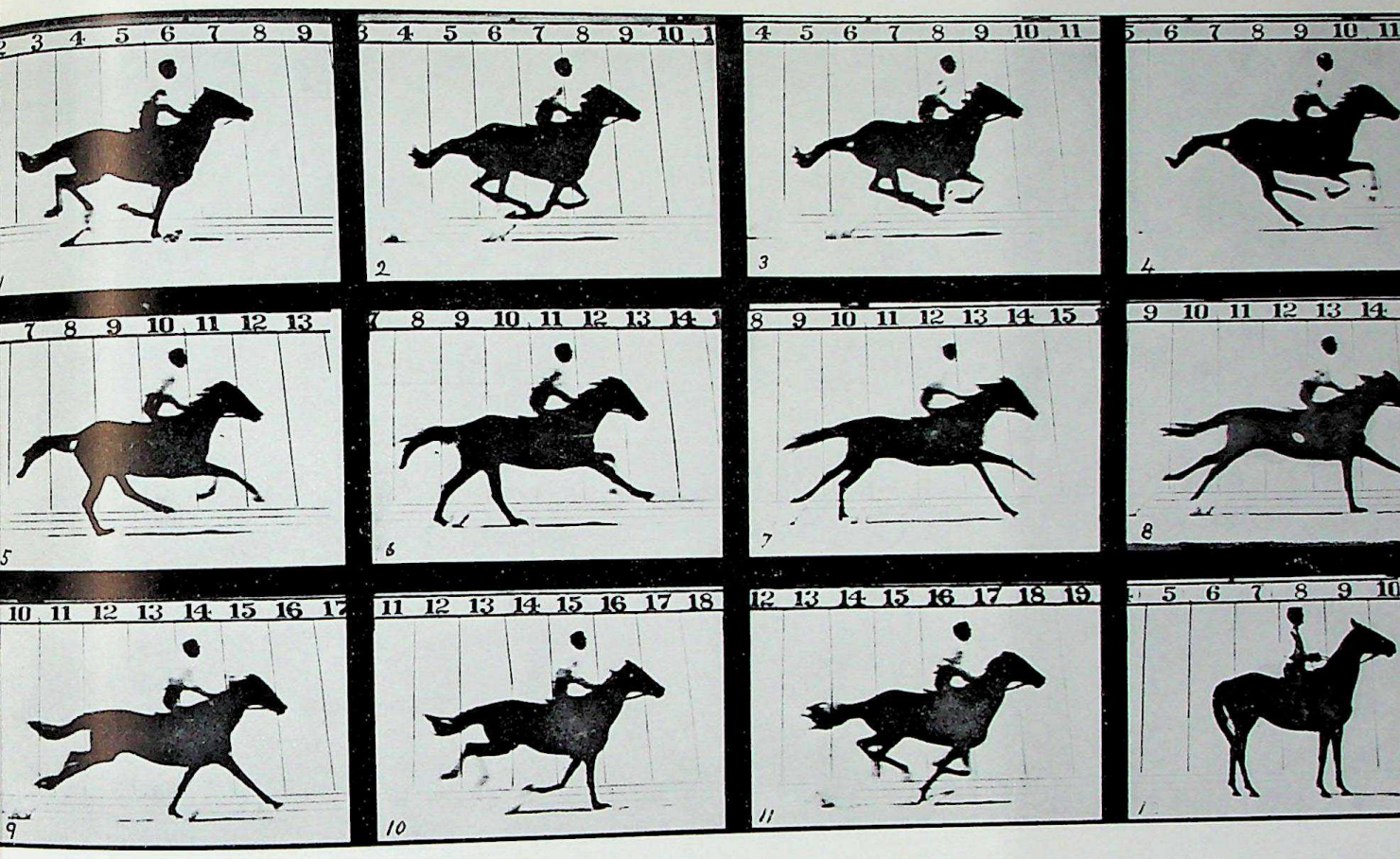
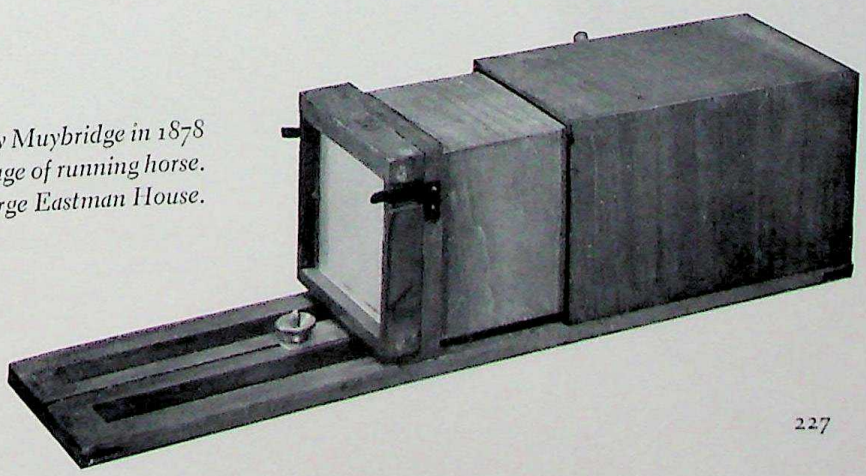


MUYBRIDGE, Horse in Motion. *Wet-plate photographs, 1878. The horse Sallie Gardner, owned by Leland Stanford, running at a 1.40 gait over Palo Alto track, San Francisco, June 19, 1878. First successful photographs of moving horse. The negatives were made at intervals of 27 inches to illustrate consecutive positions assumed during a single stride of the mare. The vertical lines are 27 inches apart; the horizontal lines represent elevation of 4 inches each. Exposure of each negative, less than 1/2000 second; twelve cameras used. Courtesy George Eastman House.*



Camera used by Muybridge in 1878 to stop image of running horse. Courtesy George Eastman House.

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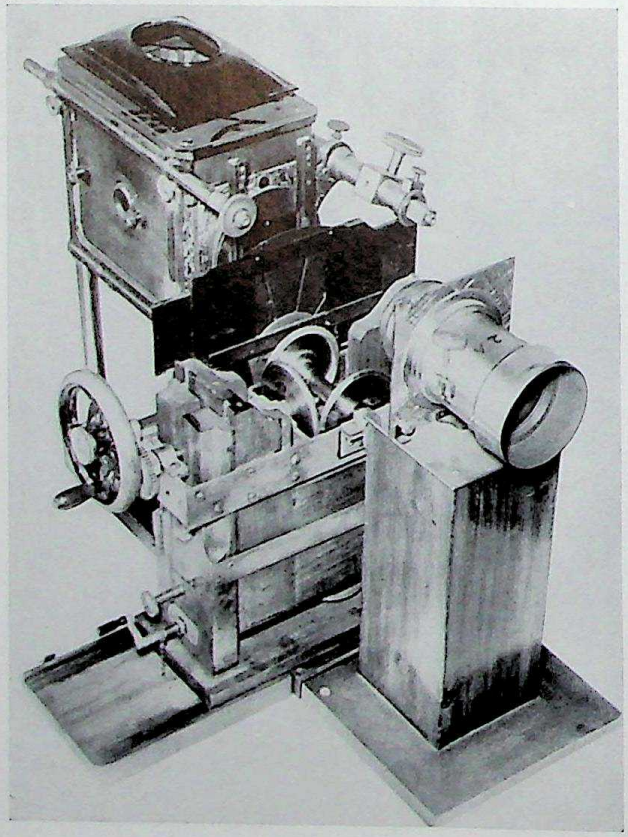
for Eakins in 1884. He did not publish his photographs. Professor E. J. Marey of France, whose camera principle of revolving discs for fast photographs Eakins modified and used, did publish similar experiments with the multiple shapes of a nude figure superimposed on a single plate. None of the photographs published created a stir of protest. In 1912 Marcel Duchamp translated similar experiments into an oil painting, *Nude Descending a Staircase*, which created a furor of protest and, strangely enough, is still often vilified.

Eakins continued his experiments with nude athletes and models as well as with horses in motion. In 1885 he lectured at the university with a projector he either invented or borrowed from Muybridge. Having succeeded in establishing the principle that a single camera taking pictures of a subject in motion from a single viewpoint was a preferable way, he gave up his experiments. His purpose, like Muybridge's, was to analyze motion, and in this they were both successful; both contributed through their experiments to the development of the motion picture.

Eakins, the artist, continued to use the still camera for graphic art. A photograph was to be respected and retained as a fine-art print, such as an etching or lithograph. A master draftsman, he compared a fine photograph to a master drawing and felt therefore that it deserved the best of paper. Accordingly, he printed on costly platinum paper capable of retaining the most subtle and delicate tones.

As an artist Eakins was neglected until the latter years of his life; as a photographer he is only now coming into his own.



Zoogyroscope. Motion-picture projector invented 1880 by Muybridge for showing sequence photographs made on glass discs. Courtesy George Eastman House.

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MUYBRIDGE, Figure Hopping. *1887. Sequence of eight stages of movement, simultaneously photographed by multiple cameras at three different positions. Courtesy Cooper Union Museum Library, New York.*

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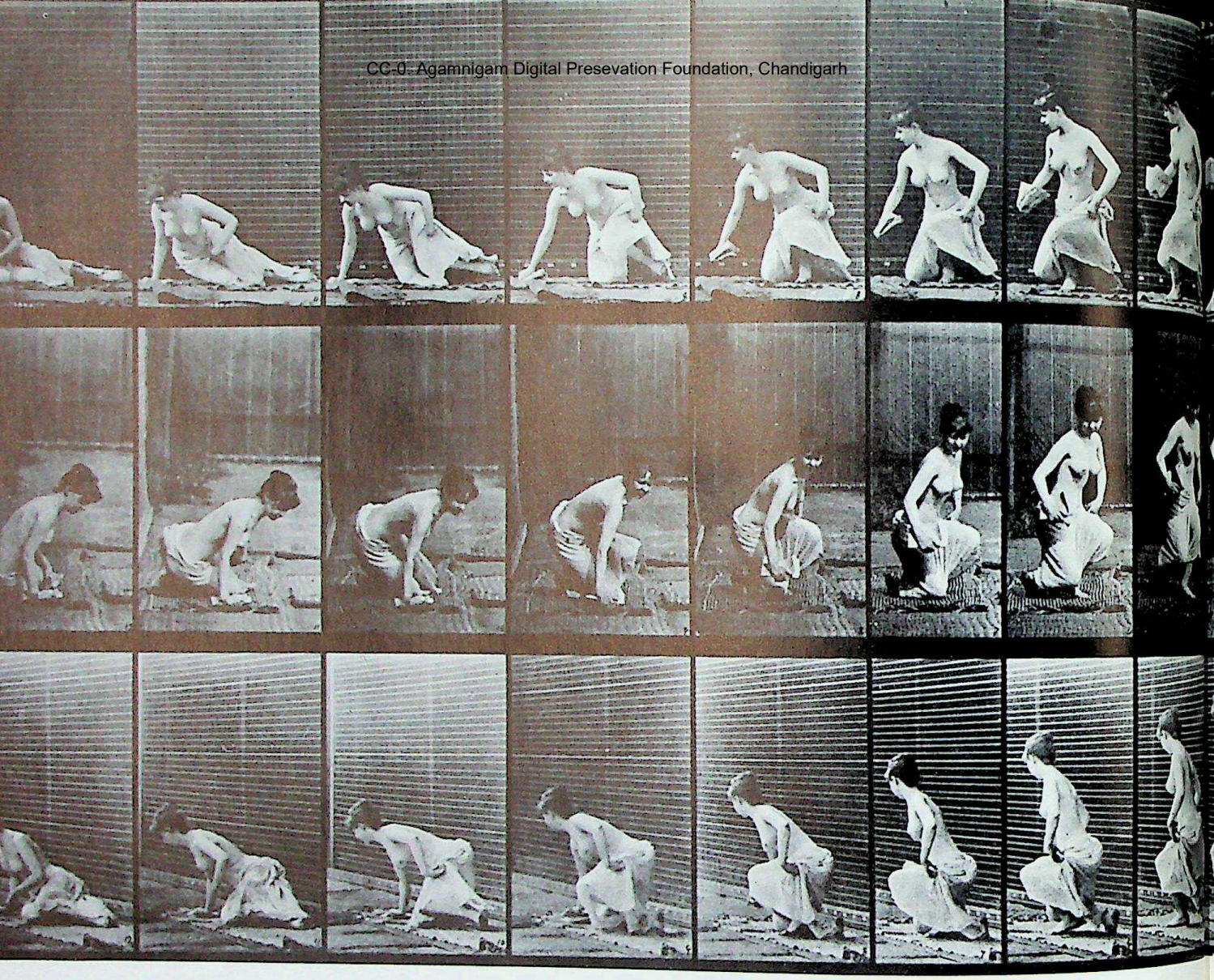
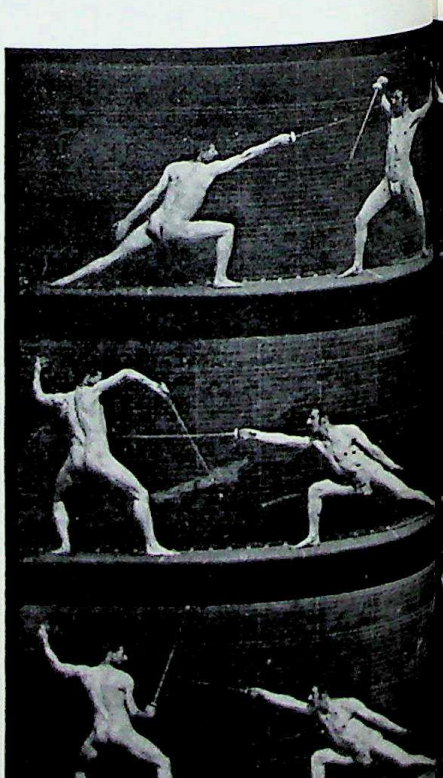


MUYBRIDGE, Figure in Motion. *1887. Sequence of twelve stages of movement, simultaneously photographed by multiple cameras at three different positions. Courtesy Cooper Union Museum Library.*



MUYBRIDGE, Fencers. *Twelve sequence photographs, Philadelphia, October 11, 1885. Published in* Animal Locomotion. *Courtesy George Eastman House.*

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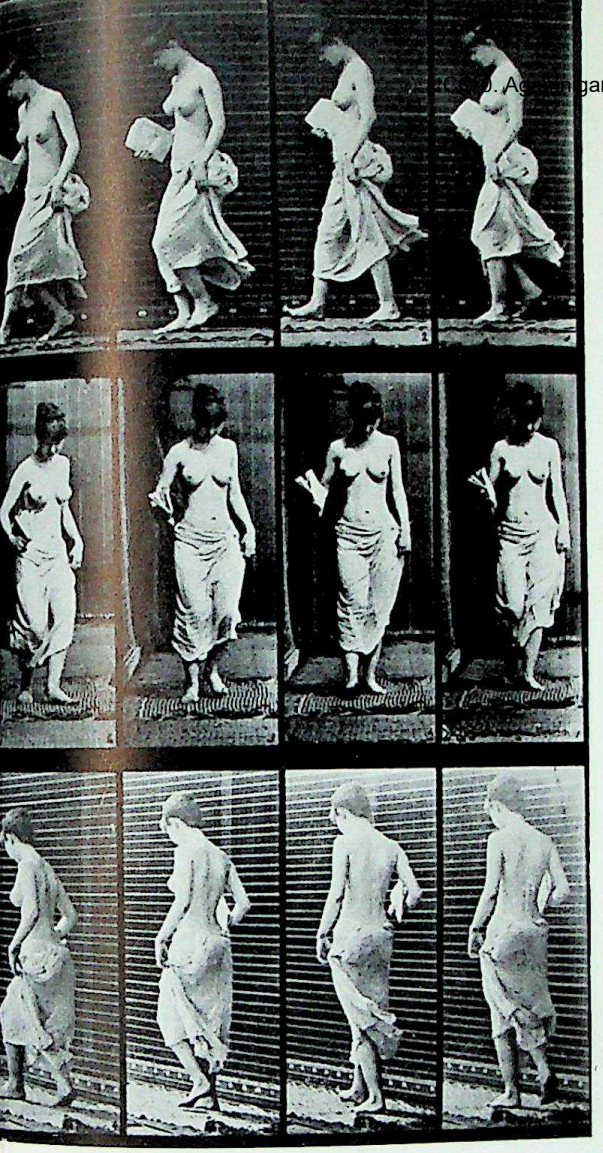

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THOMAS EAKINS. *Three platinum prints.*
Courtesy Metropolitan Museum of Art, New York.
above: Two Girls in Greek Dress. *About 1880.*
opposite page, above: Portrait of Mary Macdowell.
About 1886. Sister of Mrs. Eakins.
left: Nude Model. *About 1880.*

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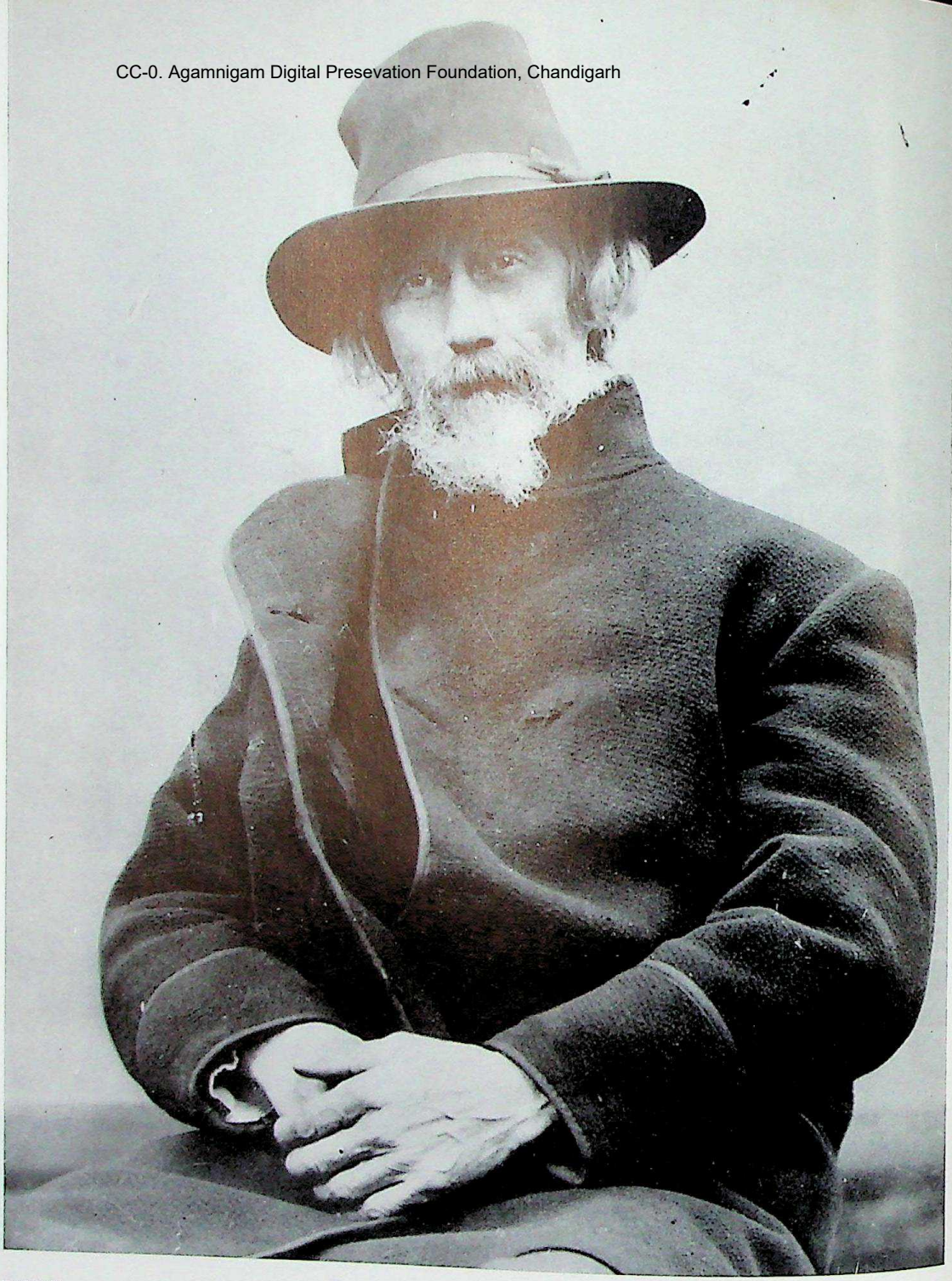

EAKINS

above: Portrait of William H. Macdowell. *Albumen print. About 1890. Macdowell, an engraver, was father-in-law of the artist. Courtesy Metropolitan Museum of Art.*
opposite page, above: Portrait of William H. Macdowell. *Oil painting, 1891. Courtesy Randolph-Macon Woman's College, Lynchburg, Virginia.*

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EAKINS
left: Margaret in Skating Costume. *Oil painting, 1871. Courtesy Philadelphia Museum of Art.*
above: Portrait of Margaret Eakins. *Glass positive, 1882. Courtesy Metropolitan Museum of Art.*

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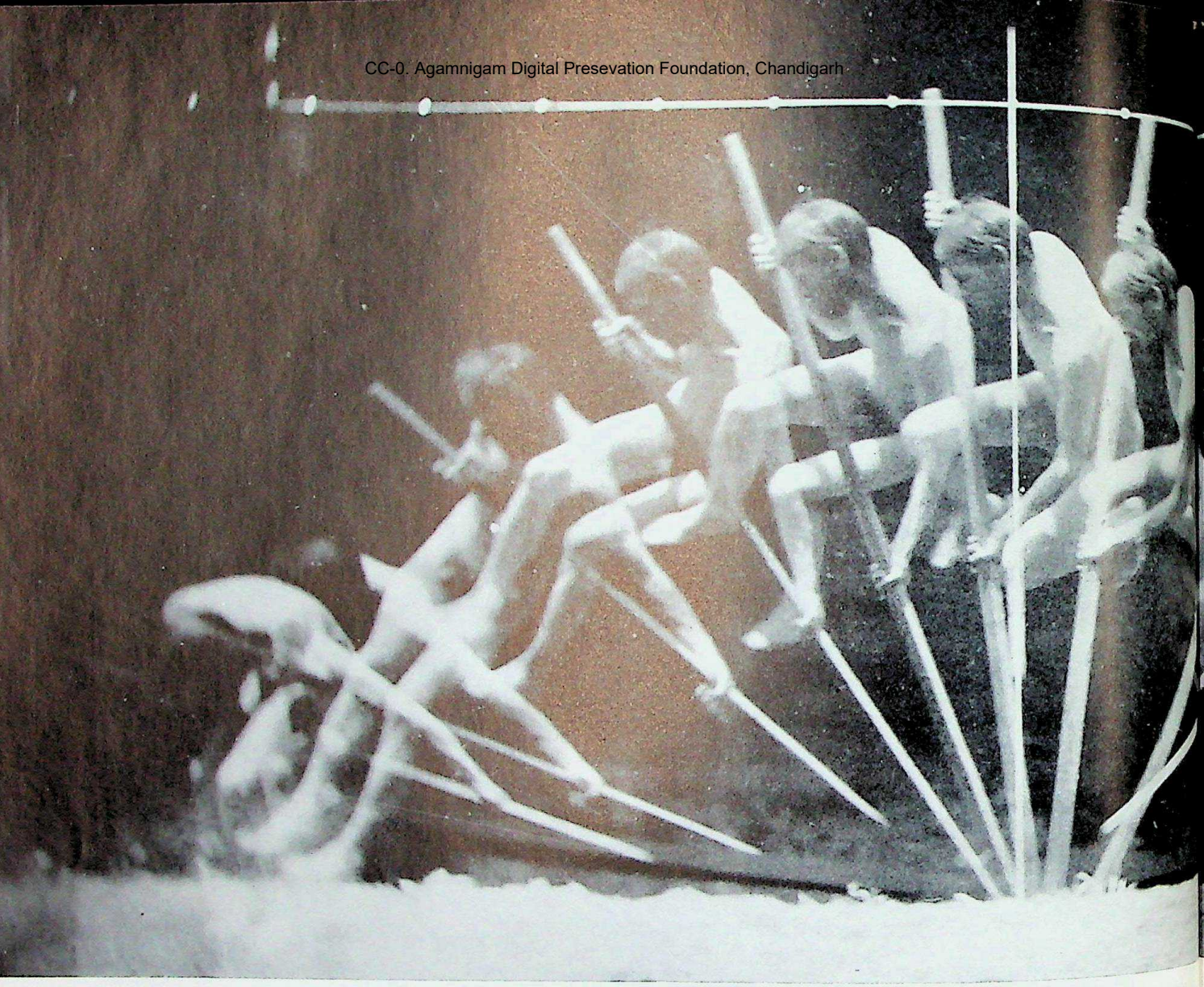

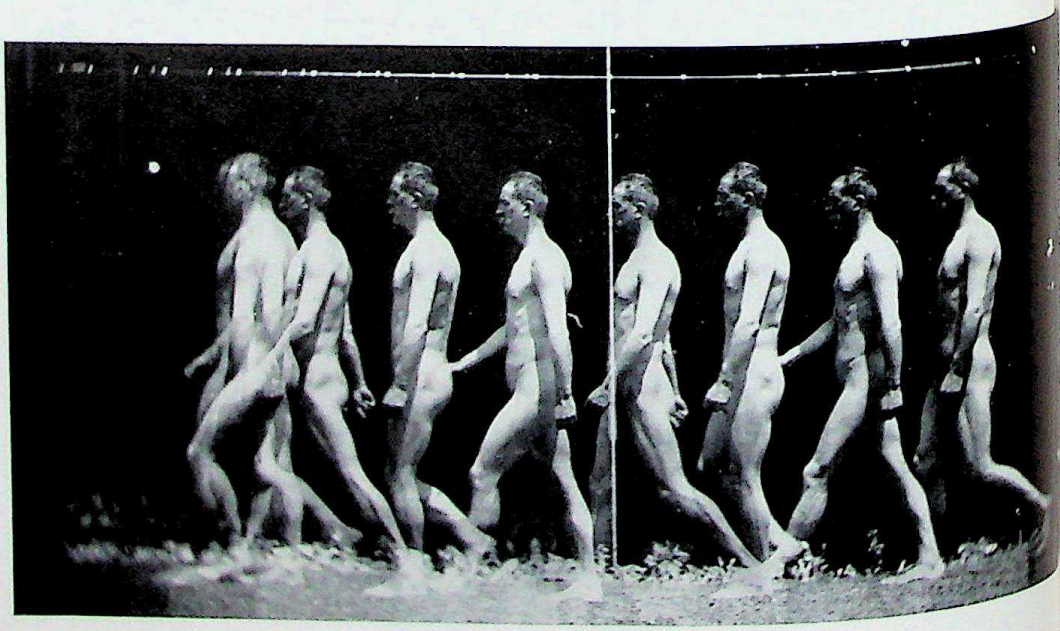

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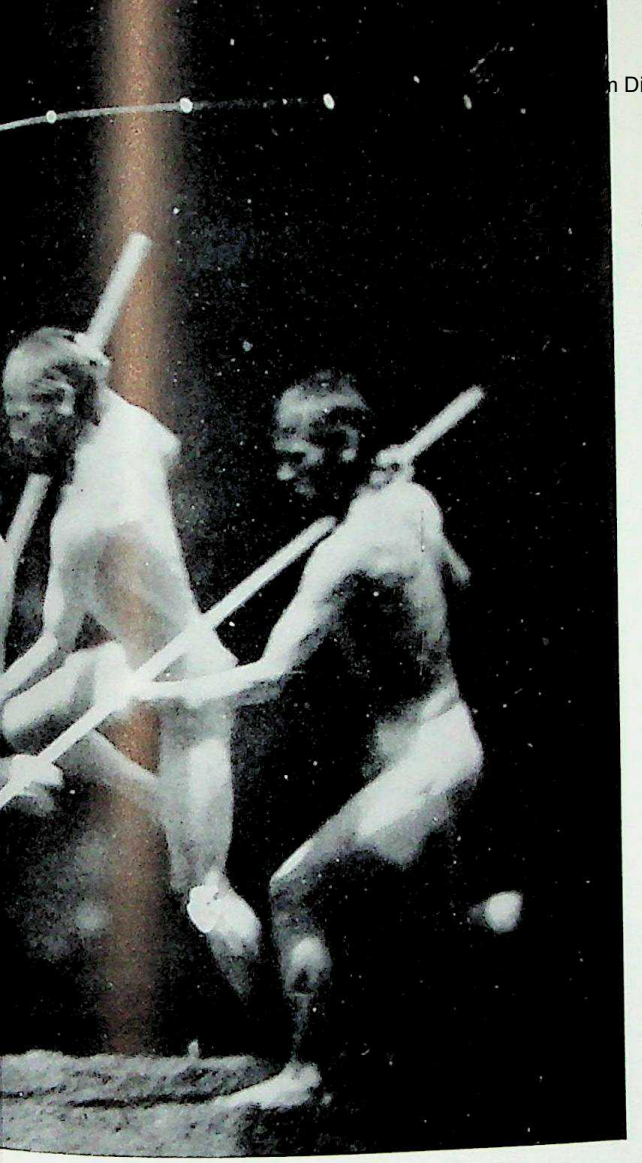
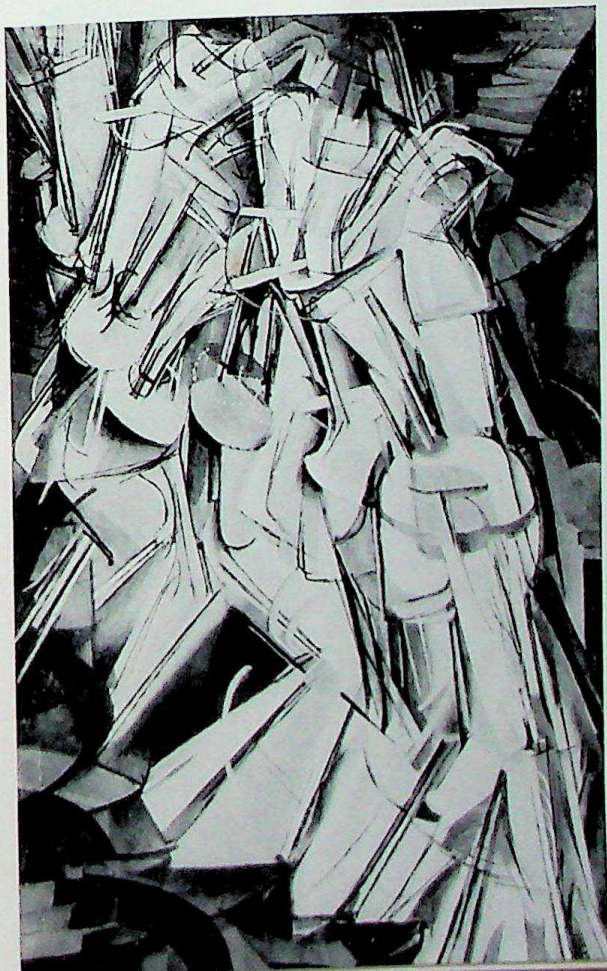


EAKINS
left: Pole Vaulter. *Wet-plate photograph, 1884. Courtesy Metropolitan Museum of Art.*
below, left: Man Walking. *Wet-plate photograph, 1884. Courtesy George Eastman House.*



MARCEL DUCHAMP, Nude Descending a Staircase. *Oil painting, 1912. Philadelphia Museum of Art, The Louise and Walter Arensberg Collection.*

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18. Footlights, Skylights, and Tintypes

THERE WERE MORE THAN THREE HUNDRED photographers' galleries in New York City alone by 1870. Brady was still there, though he was soon to close his establishment on Broadway in order to concentrate on his Washington practice; Gurney's widely known gallery flourished, and that of Frederick, his former partner; but the three most elegant galleries in New York operating in the seventies were those of Napoleon Sarony, William Kurtz, and José Maria Mora.

All three—like Falk, who opened his gallery a decade later—specialized in photographing celebrated actors and actresses. Their pictures of the glamorous and beautiful in turn attracted society women and first-nighters to their studios. A considerable profit was enjoyed by all galleries in the sale of cabinet-size (4-by-5½-inch) and *carte-de-visite* (3¾-by-2¼-inch) portraits of the nation's prominent theatrical personalities, dressed in the costumes of their most popular roles. Each gallery accumulated thousands of negatives and sold innumerable pictures through the theater, hotels, the mail, and various other channels, paying a small royalty, if any, to the pictured actor or actress. The photographs were considered such good advertising by management and performer that a commission for posing was rarely exacted.

Of the three galleries, Sarony's was the best known, Mora's the most profitable, and Kurtz's the most artistic.

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William Kurtz, born in Germany in 1834, was an artist-adventurer who had served his time as a boy with the German army and had fought with the English army during the Crimean War and with the Union Army in America's Civil War. In London he had been trained as a lithographic artist and had also taught art. Upon opening his New York gallery soon after the close of the Civil War, he introduced a method of lighting, modeling the subject's entire face through an arrangement of tinfoil reflectors, which became known as "Rembrandt" photography. A sensitive portrait photographer, Kurtz dispensed with elaborate or painted backgrounds, eliminated incongruous costumes, and used contrasty, simple backgrounds in order to secure as wide a range of tonality as possible with the wet-collodion process. The subtle Rembrandt photograph became enormously respected and popular among competent photographers, who were able to control and capture the nuances of lighting and modeling demanded by this style. Kurtz received many prizes for portrait photography, including the highest award of the International Exhibition, Vienna, in 1873.

José Maria Mora, born in Cuba in 1849, studied art and photography in Madrid, but received two years' additional training in the intricacies of the camera from Sarony before he opened his own gallery in 1870. Immediately he prospered, and became famous for his pictures of renowned actresses whom he posed with rich accessories in front of painted scenic backgrounds. Mora's reputation grew with his designs for his painted backgrounds. Soon he had hundreds of them standing one behind another ready to be used for any kind of effect from drawing room to log cabin, from desert to mountain top, with appropriate props to complete the picture.

L. W. Seavey introduced painted backgrounds for photographers; these quickly became standardized as accessories for the trade, along with automatic head supports, retouching machines, false pianos, balustrades, stairs, and chairs.

Photography's most famous chair was Napoleon Sarony's, in which consummate actors and actresses sat and played to his camera as to an immense audience. When the exact pose, the precise expression, was struck, the imperious five-foot-one-inch Napoleon, the same size as the Little Corporal and just as indomitable, hollered "Hold it," and for the 15 seconds to the 1 minute required, they all held it. Where other photographers forced the subject's head and body into vise-like clamps, asking them at the same time to "smile and look pleasant" (a cartoon of the period was captioned "You may resume your natural glum look in just a moment"), Sarony caught the actor in a pose best portraying a role without forced effects or awkward stiffness.

The warm, dramatic, and excitable personality of Sarony made a profound impression on his sitters. Those who did not respond or fall under his spell he refused to take at all or turned over to one of his assistants. Thomas Nast wrote, "He made everyone he photographed look like Sarony . . . the same feeling was in every picture . . . all his sitters seemed to catch the Sarony trick of expression and pose."

He worked hard to get a picture that satisfied him. He dressed up in a hussar's uniform. (His father had been an officer in the Black Hussars of the Austrian Army and had migrated after the battle of Waterloo to Quebec. There the future photographer had been born and named after Napoleon, whose death had taken place the same year, 1821.)

When Sarony photographed Jim Mace, the English pugilist, he sparred with the delighted champion until he had found a pose acceptable for the camera.

Sarony always complained that Sarah Bernhardt never arrived early enough to take advantage of the best light. He photographed her as the dying Camille—a representative pose, since, on her first American tour, in the eight plays she performed she was dead by the final curtain in six.

A few days after Oscar Wilde made his famous quip to the customs officer at New York's port of entry, "I have nothing to declare except my genius," he was standing in his get-up of knee breeches, although without the gilded lily he was wont to carry, in front of Sarony's camera.

The elder Sothern, Sarony photographed as Lord Dundreary in *Our American Cousin*, the role he was performing at Ford's Theater the night Lincoln was shot. The ever-remembered Joe Jefferson, who played Rip Van Winkle off and on from 1859 to 1904, Sarony photographed posed before and after his long nap.

The many-times-married Adah Isaacs Menken, who loved dogs and "fed them cubes of sugar soaked in brandy and champagne," according to Mark Twain who watched her do it, came to Sarony's in London in 1864 when Napoleon worked there for his prosperous brother, Oliver, who ran a successful gallery and photograph supply house. In New York Sarony again photographed Adah Menken the year he opened his gallery in 1866. She posed in the elaborate costume she wore in *Mazeppa*, daringly exposing her legs and limbs in tights. At the climax of the play she was bound "naked" to the back of a wild horse "which galloped up a succession of run-

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ways to the top of the theater while audiences roared their tribute."

Showman and picturesque figure, Sarony printed his flowing signature in red ink on every size photograph that left his gallery, and across the facade of the five-story structure he painted his name in huge script. He stocked the building with a fantastic assortment of curios and antiques including stuffed birds, tattered tapestries, sleighs, sleds, altars, Buddhas, armor, and sculpture, over which an Egyptian mummy stood guard at the head of the slow-ascending hydraulic elevator just big enough to accommodate him and one customer. He picked from this theatrical treasure house the props he needed for his pictures.

In May 1896 Sarony sold at auction this tremendous hodge-podge curio collection. Six months later he was dead. Pall bearers were fellow members of the Tile Club, the reputable painters William M. Chase and Edward Moran, and the writer, F. Hopkinson Smith. Smith wrote a novel, *The Fortunes of Oliver Horn*, in which Sarony figured as the character Julius Bianchi; in it an artist-lithographer known to his fellow "skylarkers" as "the Pole" brings to the club a countess—obviously a takeoff inspired by Sarah Bernhardt.

Trained as an artist in Paris for six years before he turned to photography, Sarony continued to make lithographs and paint canvases all his life, puerile efforts resembling the commercial hack work of the period. Of his years spent in photography he complained, "all day long I must pose and arrange for these eternal photographs. They will have me. Nobody but me will do . . . [but] all my art in the photograph I value as nothing."

If Sarony underestimated his life's work and displayed little pride in the art of his camera, the itinerant tintype "professor," the ever-present man with the black box at beach, carnivals, and congested streets, or located in

Napoleon Sarony in Hussar's Uniform. *Taken by Sarony's assistant, about 1870. Courtesy George Eastman House, Rochester.*

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Sarony's advertisement for cartes-de-visite.
Courtesy Museum of the City of New York.

special tintype galleries near the board walks of the country, knew that the pictures he took on thin sheets of iron, lacquered and sensitized, had no artistic value at all. The whites came out a dull gray and, though black patent leather, oilcloth, and enameled papers were tried as substitutes, the cheap single positive picture on "tin" never lost its popularity. The results could be seen in a few minutes; the pictures were permanent; and, though easily scratched, they were less fragile than the more costly ambrotypes on glass. Assembled in a union case, the tintype became a family heirloom along with the earlier daguerreotypes.

Tintypes in miniature appeared on rings, brooches, tie pins, cufflinks, and were the first political buttons containing pictures of the candidates. A patent was granted for tintype photographs to be attached to tombstones.

The poor and lowly tintype was patented by an American, Hamilton L. Smith, in 1855, who called them "melainotypes" from the prefix meaning black. They were also called "ferrotypes" meaning iron. They were introduced to Europe in the 1870s, and were advertised as American ferrotypes, mounted on a paper cutout, and sold more cheaply than any other existing photographic image.

The distinctive tintype was fortunately preserved in a fancy, tooled album; so also were the enormously popular "gems," which measured less than an inch. Not considered art, tintypes preserved for our day the honest and untouched face of the unsophisticated who posed for this picture and not for public or posterity. The ingratiating, unique, and unidentified tintype image often captivates the spectator.

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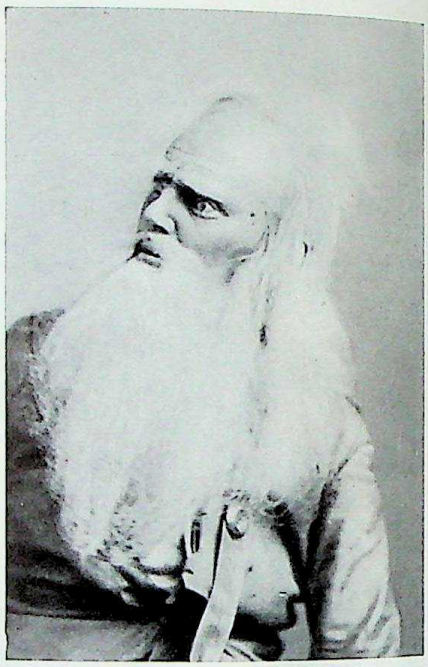
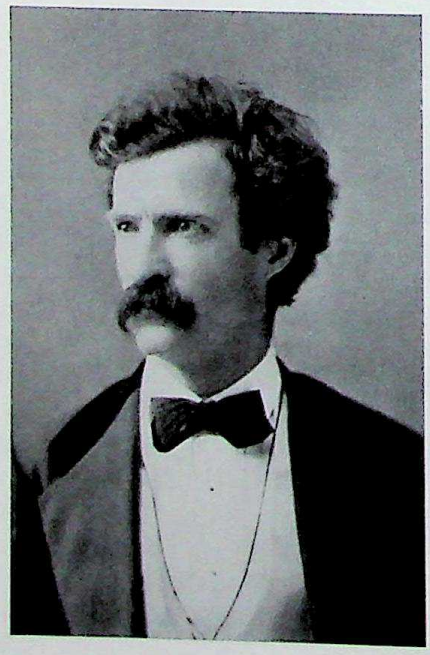


SARONY
Joe Jefferson as Rip van Winkle.
Before and after his long nap.
Cartes-de-visite, 1869. Courtesy
Cornelia Otis Skinner, New York.



GURNEY. *Cartes-de-visite, 1870.*
right: Mark Twain.
far right: Edwin Booth.
Courtesy Cornelia Otis Skinner.

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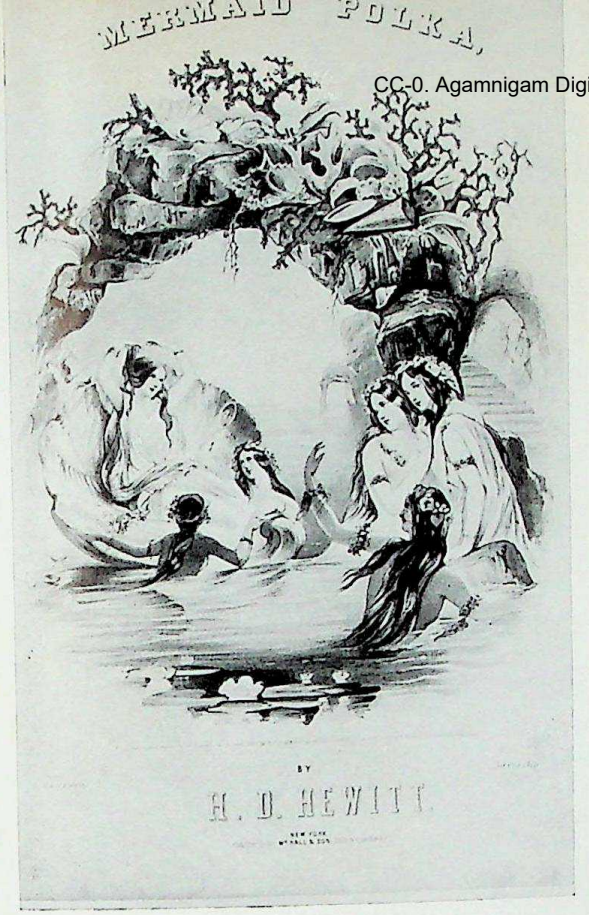
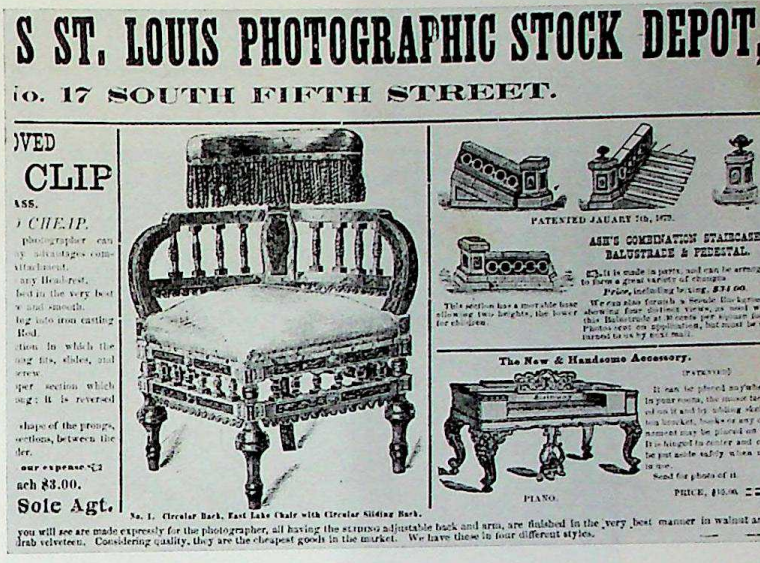
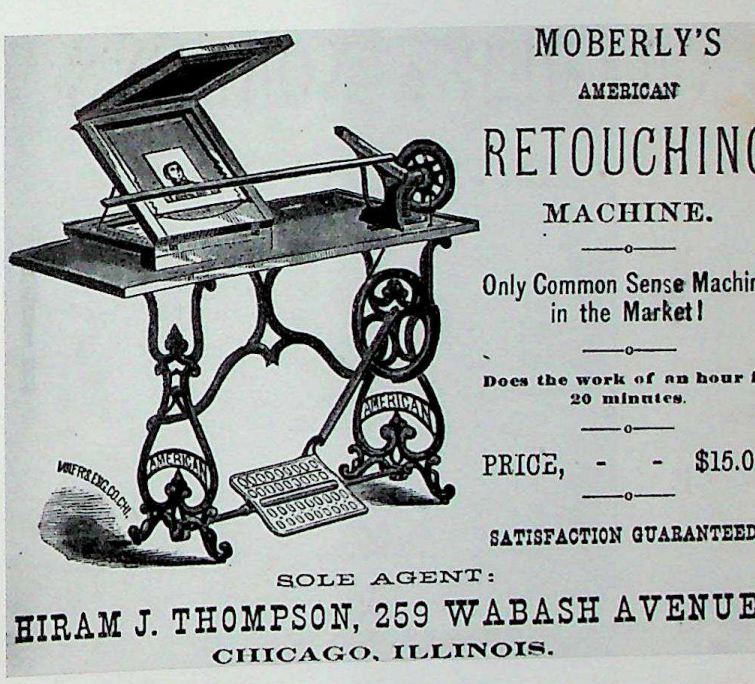


Lithograph of drawing by Sarony for sheet-music cover. Courtesy George Eastman House.





Advertisements for photographic accessories available in 1880. Courtesy George Eastman House.

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SARONY, Otis Skinner with Edith Kingdon in a Daly Company Performance. 1885.
Courtesy Cornelia Otis Skinner.

FALK, Lillian Russell.
Cabinet-size photograph, 1889
Courtesy George Eastman House.

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MORA, Lotta Crabtree.
Cabinet-size photograph, about 1885.
Courtesy George Eastman House.

SARONY, E. H. Sothern as Lord Dundreary.
About 1885.
Courtesy Cornelia Otis Skinner.

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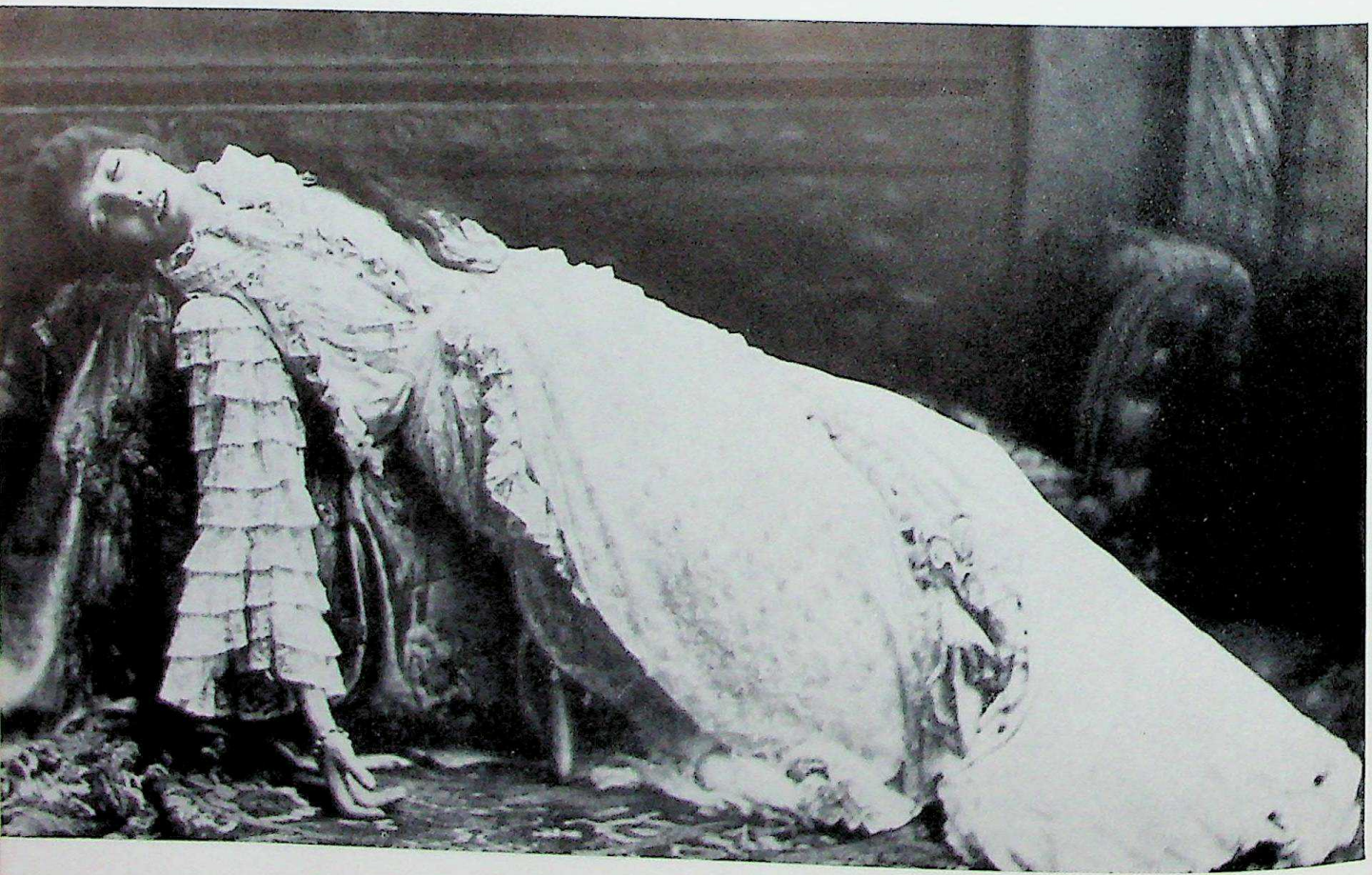

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SARONY
left: Oscar Wilde. 1882.
opposite page, above: Adah Isaacs Menken in "Mazeppa." 1866.
opposite page, below: Sarah Bernhardt in "Camille." 1880.
All three, courtesy George Eastman House.

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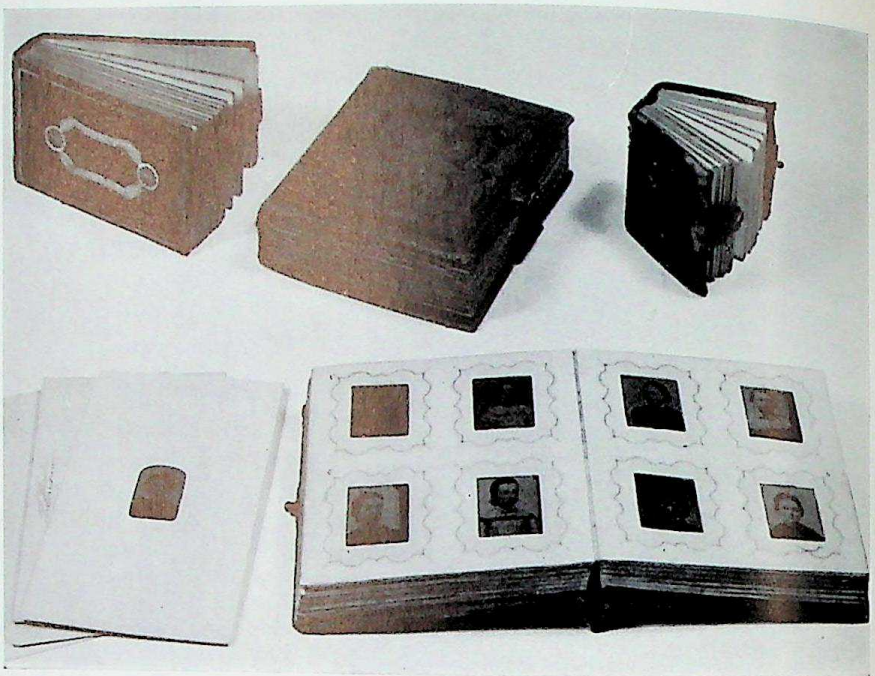
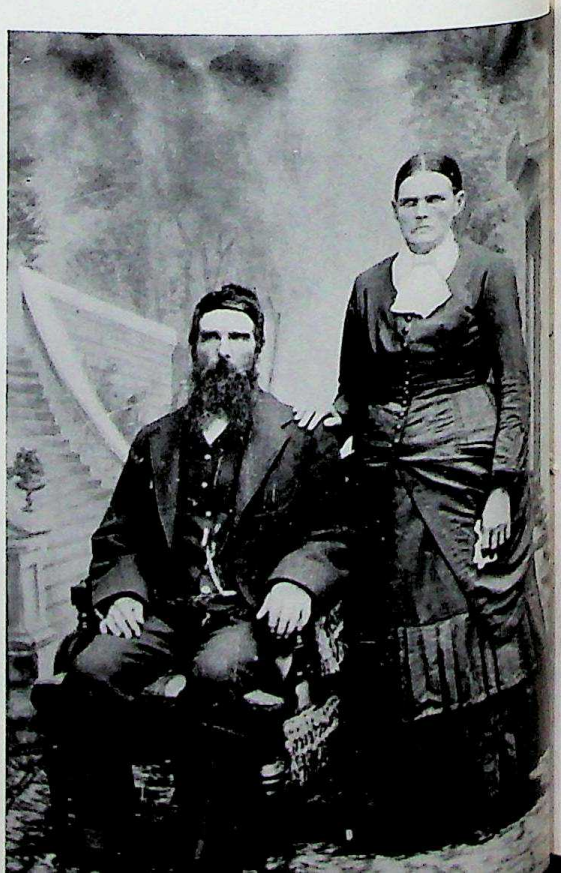


Miniature albums for the "gem" tintypes, measuring 7/8 x 3/4 inches, about 1880 Courtesy George Eastman House.



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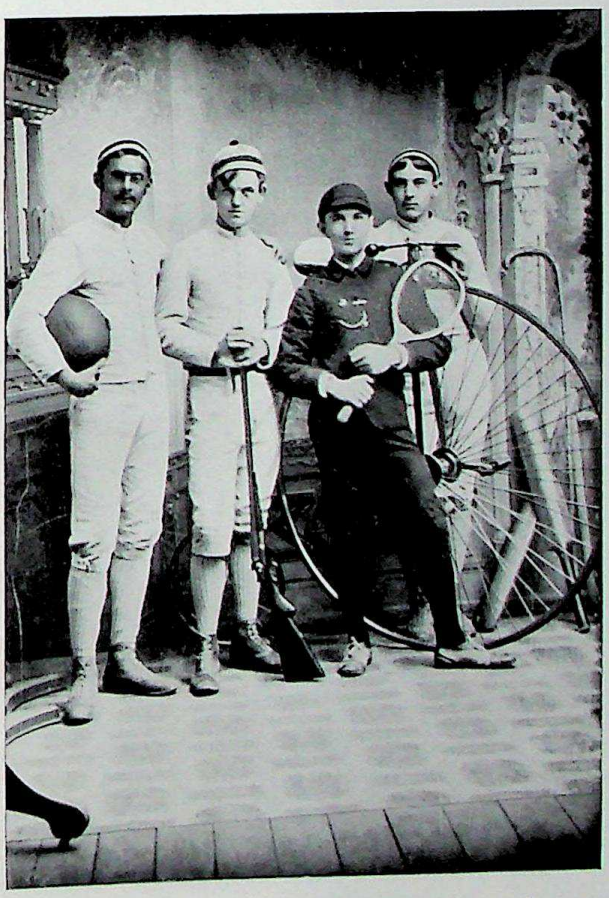

A group of four tintypes, about 1880. Photographers unknown. Courtesy Metropolitan Museum of Art, New York.

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19. The "Detective" Camera and the Kodak

In 1871 Dr. Richard Leach Maddox, an English physician and amateur photographer, substituted gelatine for collodion. This new process, the gelatine-bromide dry plate, published on September 8 in the *British Journal of Photography*, permitted free use to all interested.

Unfortunately the first dry plates were slower than wet plates. The new invention was not generally adopted until 1878, when the improved, ready-made plates, by then faster than any other process, could be bought commercially, stored, exposed at will, and developed at leisure. Before 1880 most amateurs and practically all professional photographers had abandoned the unwieldy, messy, demanding collodion process in favor of the costlier but more advantageous dry plate.

A pioneer maker of gelatin dry plates in America was George Eastman, who worked during the day in a Rochester, New York, bank and at night coated glass plates by hand with the liquefied, sensitized gelatin. Eastman soon improved the uniformity of the plate by inventing a machine to do the coating. In 1879 he patented the machine in England and the following year secured a patent for the same invention in the United States. That same year E. and H. T. Anthony, the largest dealers of photographic materials in the country, were handling Eastman dry plates. Prices of cameras were cut as Anthony's advertised "dry-plate photography for the mil-

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lions." A small 4-by-5 camera with a lens, a tripod, and a dozen Eastman dry plates, could be bought for as little as $12.25.

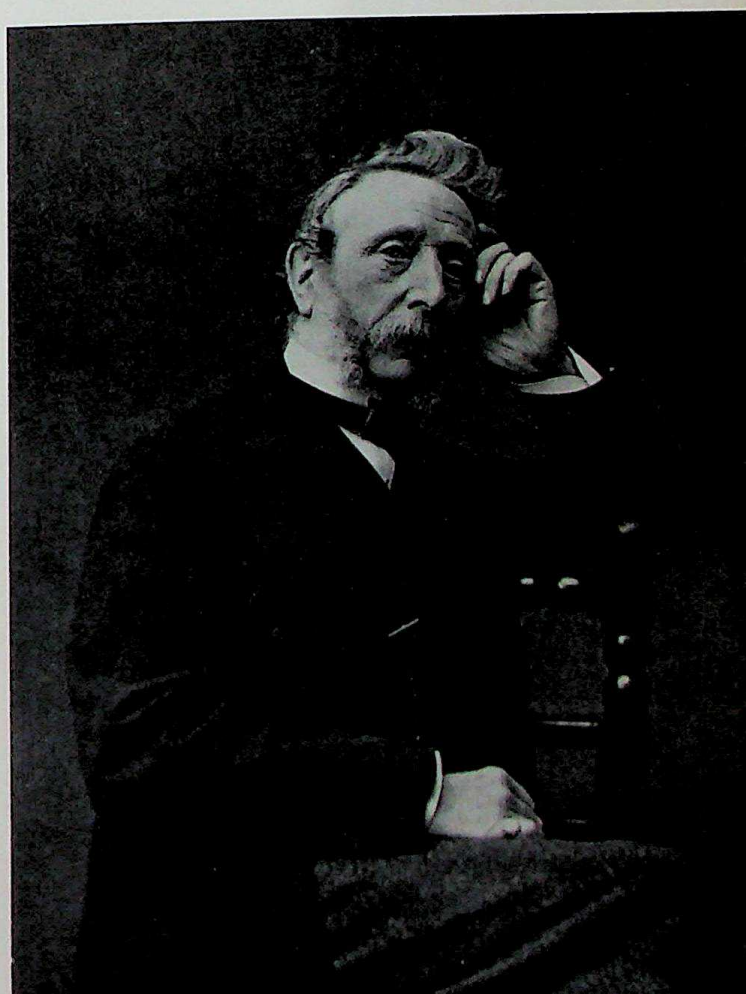
In 1881 Eastman left the bank to devote full time to his expanding dry-plate factory, which, throughout the previous winter, had been sending the packaged dry plates to Anthony's in anticipation of the spring and summer business. All these plates went bad. They quickly lost their sensitivity. Complaints poured in to Anthony, who sent them on to Eastman. His next move made him friends and staunch supporters among cameramen everywhere. First he located the cause of the trouble; then he replaced all defective plates with corrected ones.

During the next two years Eastman improved the plates, increasing the sensitivity of the emulsion and its stability in any kind of climate. Professional photographers swore by his products. He prospered. He built a larger plant and Anthony's looked forward to greater sales of Eastman's rapid gelatin plates.

Eastman continued his experiments, searching for a new system of photography to supersede the gelatin dry plate. He went back to using paper as a base and invented a machine to prepare and coat a roll of paper. After exposure and processing, the paper negatives were treated with castor oil to make them transparent—just as Fox Talbot's calotypes had been dipped in oil back in the early forties. These negatives did not compare with glass plates for clarity. Eastman then tried coating the paper with two layers of gelatin. After developing and fixing the bottom layer was dissolved in warm water, leaving the image on the sensitized upper layer of gelatin, which was then dried in contact with a sheet of heavier gelatin.

The greatest virtue of this new "American film," as Eastman called it, was its flexibility. A roll holder could be fitted to any existing camera, even one hand-held.

The fast dry plate of several years earlier had made possible the hand-held camera, thereby eliminating the tripod. Instantaneous photography was an actuality. The snapshot had come into its own. No longer was photography the field of the professional and the dedicated amateur willing to undergo the hardships demanded by the wet plate. Box cameras held in the hands of gumshoe amateurs trying to catch candid pictures gave the name "detective cameras" to the strange box without bellows. Most of these were manufactured by the Scovill Manufacturing Company and by Anthony, companies which later merged to become Ansco. Some of this sleuthing was necessary if one wanted to be a candid-camera man. Social etiquette of the 1880s and 1890s would hardly sanction a stranger's approaching a person and asking him to pose; a formal introduction was obligatory just to ask for permission to photograph. Efforts to circumvent these difficulties led to strange solutions: detective cameras were disguised in a number of ways. Hidden in a derby hat one camera was advertised as a "practical secret camera that defies detection" and sold for 42 shillings in London. A Frenchman marketed a "detective camera" in the form of a pistol, strangely believing that the operator would go unnoticed pointing at a person what obviously appeared to be a gun. More discreet hidden camera instruments were fitted into binoculars, books, ready-for-mailing packages, coin boxes, canes, and cravats—the lens in the cravat camera masqueraded as a



W. F. DEBENHAM, Dr. Richard L. Maddox. *Portrait, about 1880, of man who invented the gelatine dry plate in London, 1871. Courtesy George Eastman House, Rochester.*

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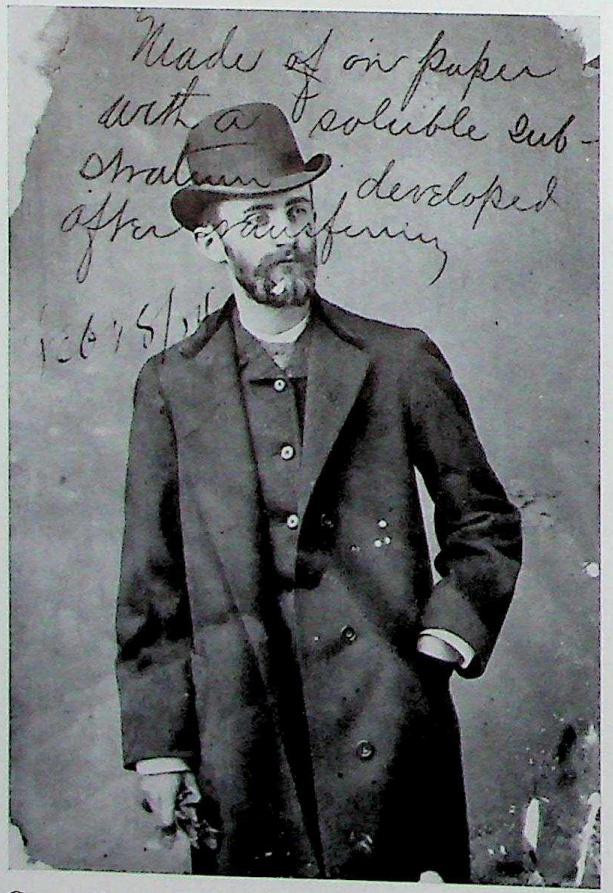
stick pin, and the shutter was operated by a string or bulb held in the pocket.

Eastman in 1886 designed and patented a box camera with a standard roll holder for forty-eight 4″-by-5″ negatives, a focusing lens, and what he termed an "alligator shutter," but it did not work too well. Two years later he developed the perfect amateur camera of its day and coined a word which has been synonymous with "camera" ever since, "Kodak." The Kodak was a small box, a little over 6 inches long, 3½ inches wide, and less than 4 inches high. Anyone could operate it who, according to the Kodak Manual, was able to: 1. Point the camera. 2. Press the button. 3. Turn the key. 4. Pull the cord.

The No. 1 Kodak was not a pinhole camera. It was fitted with a lens and masked to take a circle negative 2¼ inches in diameter. One hundred negatives were on the roll. When the roll was fully exposed the entire camera was mailed back to Eastman, who returned the camera reloaded plus the negatives and one hundred mounted prints (or as many as were not blanks) from the first roll, all for the sum of $10. The original outlay was $25 for the first loaded camera. Every purchaser became an avid amateur.

It was George Eastman's slogan, "You press the button, we do the rest," that accounted for what was to become the first world-wide folk art.



George Eastman. 1884. *Photographer unknown. Eastman made this print on his new film, February 8, 1884, and wrote "Made on paper with a soluble substratum developed after transferring." Signed across the lapels. Courtesy George Eastman House.*

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above: FRED CHURCH, George Eastman on Board Ship.
Taken 1890 with No. 1 Kodak identical with one Eastman holds in his hands.
left: PAUL NADAR, George Eastman. *Paris, 1890.*
Both, courtesy George Eastman House.

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above: Enlarged print from No. 1 Kodak camera, invented 1888 by George Eastman, original size 2½ inches diameter. Photographer unknown.
left: GEORGE EASTMAN, Paul Nadar. *Taken with No. 1 Kodak in the Place de l'Opera, Paris, 1890. Both, courtesy George Eastman House.*

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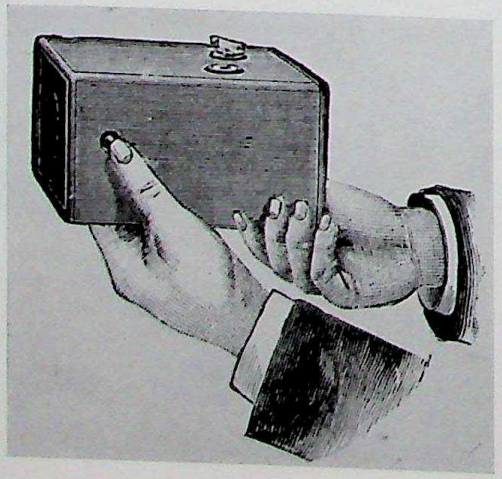
left: Eastman Kodak Company advertisement, 1892.
below, left: Model No. 1, Kodak camera, 1888.
A circular negative on roll film was used.
below: "Hat" detective camera, about 1889,
for sale in London at two guineas, with fitting.
All, courtesy George Eastman House.



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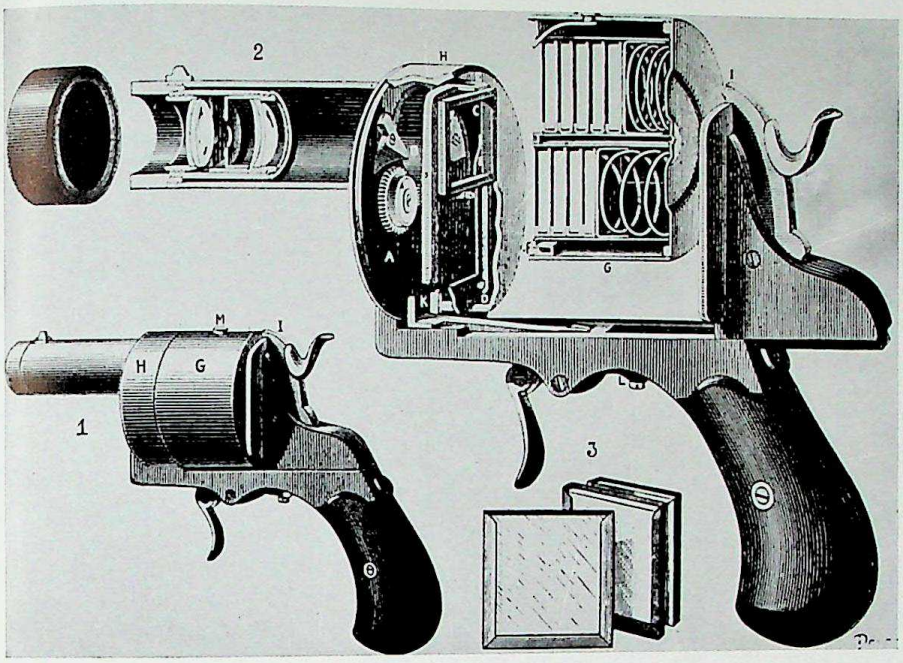

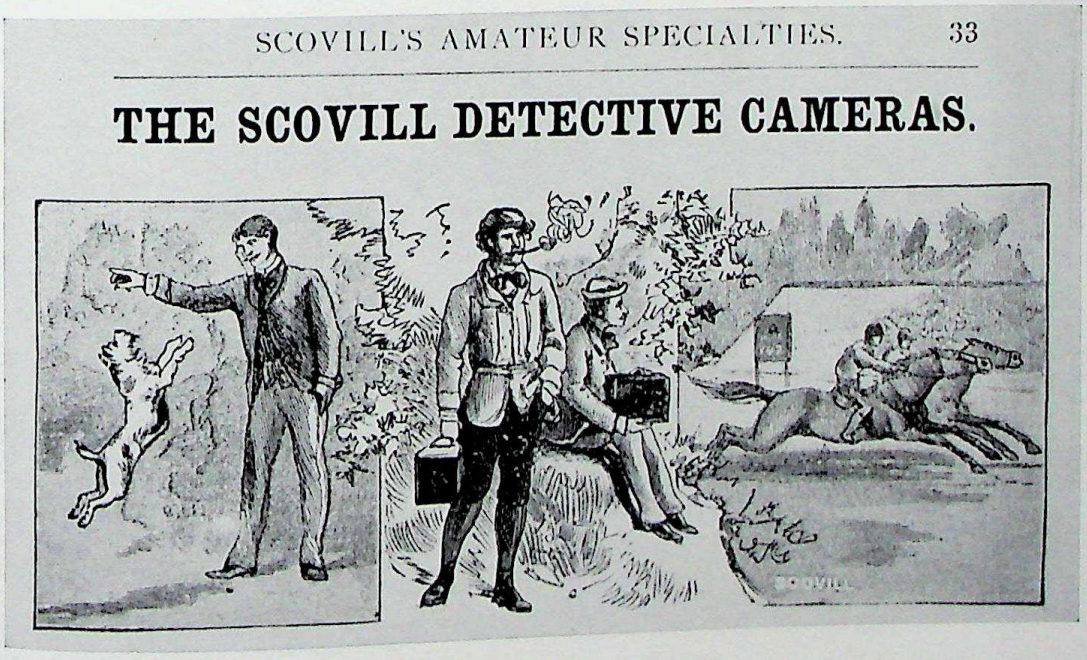

above: Detective cameras for sale in 1886 by the Scoville Manufacturing Company. top: A pistol camera for candid photographs, about 1888. Both, courtesy George Eastman House.

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PART THREE

Masters of the Modern Era

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20.

Stieglitz: An American Legend

THERE ARE SOME EARLY PHOTOGRAPHS by Alfred Stieglitz (1864–1946) that are poetic gems, superb pictures which, more than fifty years later, hold their own as works of graphic art. Repeated viewings do not dull their esthetic impact—barren trees bordering a Munich road in November, 1885; Paula intently writing a letter in Berlin, the summer of 1889; a Fifth Avenue horse car at the terminal in the snowstorm of 1893; sparkling wet streets at night taken in 1896 in front of New York's Plaza; delicate, budding leaves of a young tree, and an unconcerned sweeper on a soft street in *Spring Showers* of 1902; and, closing this portfolio of everlasting appealing photographs, *The Steerage* of 1907.

It was not that Stieglitz did not continue to take memorable pictures. All his long life he saw the world in terms of the camera. Photography was his basic medium as an artist though he let his personality expand by becoming editor and writer, pioneer art dealer for *avant-garde* artists of two continents, and champion of constantly changing photographic-art movements.

In the beginning, in 1890, when he had just returned to his native land after eight years in Germany where he had forsaken the study of engineering for photography, New York first exerted its power over him. He then revealed through his pictures his imaginative response to such exciting visual stimuli. It was not reportage that

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he created with his camera, although his work was strikingly honest; through his cultivated eye and comprehensive technique it went beyond the limited validity of a mere record.

Stieglitz was to say in later years, "I have found my subjects within sixty yards of my door," and he spoke of the "exploration of the familiar." In 1890 these thoughts were revolutionary. Those were the days of sentimental genre pictures, composite and "high art" photographs, which Dr. P. H. Emerson, the author of *Naturalistic Photography* had attacked in London but which were still the criteria of excellence in New York's camera clubs, where their artificial images hung on the line in every annual arty salon.

During these years, 1890–1895, Stieglitz tried to make himself financially independent by conducting a photoengraving business. The photogravure process was always to intrigue him; he considered this mechanical reproduction process second only to an original platinum print.

Every free moment Stieglitz stalked the streets with his hand-held "detective camera." He took straight pictures; he did not retouch, enlarge, or indulge in any camera tricks. In this he followed Dr. P. H. Emerson, who in 1887 had given Stieglitz his first bit of encouragement by awarding him two guineas and a silver medal. This was the first of 150 medals Stieglitz was to win in the early 1890s, at a time when he was advocating the abolition of the medal system.

Stieglitz joined the Society of Amateur Photographers and became editor of their publication, *The American Amateur Photographer*. He advocated pictorial photography and recommended a new annual photographic salon without prizes or medals. The Society and the New York Camera Club combined in 1897 to form The Camera Club; Stieglitz was elected vice-president and editor of its publication, *Camera Notes*. That year he saw published his first portfolio of photographs, *Picturesque Bits of New York*.

In England a row had been shaping up in the form of pure photography versus pictorial photography. Dr. P. H. Emerson held that soft focus corresponded to natural vision and that soft-focus photography was an art superior to all other graphic arts, surpassed only by painting. Then he either attended Whistler's "Ten O'Clock" lecture or spoke with Whistler, who convinced him that he was confusing art with nature. Emerson reversed himself. He wrote a black-bordered pamphlet entitled *Death of Naturalistic Photography, A Renunciation*. A master of vituperation, he defined "photographic Impressionist" as "a term consecrate to charlatans, and especially to photographic imposters, pickpockets, parasites and vanity-intoxicated amateurs." He called attention to the limitations of photography: "The individuality of the photographer is cramped . . . control of the picture is possible to a slight degree . . . the powers of selection and rejection are fatally limited . . . it is impossible in most subjects to alter your values as you wish . . . ," and, in differentiating between sharpness and diffusion, he wrote, "If the work is for scientific purposes work sharply, if for amusement please yourself, if for business do what will pay." Stieglitz in his overwhelming desire to see photography accepted as an art championed sharp and diffuse photography.

Whistler's heady remarks worked oppositely on younger photographers in America. His nocturnes, harmonies and arrangements, his organization of patterns and compositions based on Japanese prints, all became more important than the subject. The ideal in photography was to be achieved through soft focus, intense, brilliant whites and velvety, deep-black shadows on rough, specially prepared drawing paper. Whistler's butterfly monogram was emulated; so were the pastel-colored mounts and the distinctive gold frame he designed. Critics and visitors were unstinting in their praise of photographs believed to be copies of paintings. A complicated gum-bichromate process had been discovered in which the photographer could apply sensitized pigment with a brush, building up weak areas or painting out and washing away undesirable sections or details.

Robert Demachy of Paris, who adopted the gum-bichromate process later, wrote in a *Camera Work* article on the straight versus the modified print that there was "no limit to what a photographer can do to make a photograph a work of art . . . meddling with a gum print may or may not add the vital spark, though without the meddling there will surely be no spark whatever."

Stieglitz at the opening of the "Photo-Secession" exhibition in 1902 said, "It is justifiable to use any means upon a negative or paper to attain the desired end." Photographs now resembled charcoal drawings, mezzotints, water colors. Several years later Steichen wrote, "Camera photography can never compete with the brilliant virtuoso performance of Winslow Homer's brushwork [marine paintings] but in every other way of pictorial reality, it is superior, especially so when color will have been perfected and a phonograph record of the waves added to it."

Stieglitz had resigned the editorship of *Camera Notes* and had founded Photo Secession along with John G. Bullock, William B. Dyer, Frank Eugene, Dallett Fuguet, Gertrude Kasebier, Joseph T. Keiley, Robert S.

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Redfield, Eva Watson Schutze, Eduard J. Steichen, Edmund Stirling, John Francis Strauss, and Clarence H. White. The official organ of the group was *Camera Work* with Stieglitz as editor and publisher and Keiley, Fuguet, and Strauss as associate editors. The purpose as outlined in the prospectus of Photo Secession was "to hold together those Americans devoted to pictorial photography . . . to exhibit the best that has been accomplished by its members or other photographers and above all to dignify that profession until recently looked upon as a trade."

Its purposes were similar to the Linked Ring in London. In 1905 Photo Secession opened the Little Gallery, designed by Steichen, at 291 Fifth Avenue in New York. Stieglitz was the director. For the next twelve years photographs by the members vied with paintings and drawings by Matisse, Marin, Hartley, Weber, Rousseau, Renoir, Cezanne, Manet, Picasso, Braque, Picabia, Dove, and O'Keeffe, sculpture by Rodin and Brancusi, Japanese prints and African Negro carvings. Many of these artists were shown for the first time in America, years before the shattering Armory Show of 1913 and long before any American museum purchased a sculpture by Brancusi or a painting by Picasso.

The first Matisse exhibition, held at 291 in April, 1908, had been arranged through Steichen in Paris. Critics reviled the "wild man." "His idea is that you should in

All photographs in this chapter are courtesy The Art Institute of Chicago, Stieglitz Collection, unless otherwise noted.

ALFRED STIEGLITZ, November Days. *Munich, 1885.*

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STIEGLITZ, Winter on Fifth Avenue. 1893. *Courtesy George Eastman House, Rochester.*

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STIEGLITZ, Snow-Capped Mountains. *About 1887.*

painting get as far away from nature as possible," wrote Chamberlain of the *Evening Mail*, and Elizabeth Cary of *The New York Times* said of paintings by the Fauve Matisse, "ugly and distorted, many of them amounting to caricatures without significance."

The Camera Club, of which Stieglitz was a founder, expelled him because he exhibited Matisse, whom they regarded as an "arch Satanist" and a "menace to artistic morals." Stieglitz never let the club reinstate him, although they made several overtures.

In 1910 the Albright Art Gallery in Buffalo, New York, fell to the persuasive blandishments of Stieglitz, turning the Museum over to Photo Secession for an international exhibition of pictorial photography. Five hundred photographs ranging in treatment from pictorial realism to imitation painting were installed on specially prepared walls. Fifteen were purchased for the museum's permanent collection. An important battle had been won, for official and dignified recognition. Photographers rejoiced, but under Stieglitz, who footed all its bills and found himself short of funds, 291, the Little Gallery, devoted more time to art exhibitions that helped defray expenses.

Camera Work also devoted more space to reproductions of artists' works plus articles and a box-score reprint of all that the newspaper art critics wrote about any art exhibition at 291. Reproductions by photogravure of paintings and photographs appeared regularly. Some photographers, particularly Stieglitz in America and

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Emerson in England, preferred this commercial form of printing for any large edition of prints. It was a short-lived contention of Stieglitz at this time that only one perfect print could be got from a negative, thereby claiming uniqueness for a photograph as for a painting.

The fifty uniformly printed issues of *Camera Work* contained special articles by George Bernard Shaw, Maurice Maeterlinck, Sadakichi Hartmann (whose first pieces were signed Sidney Allan), Robert Demachy, Benjamin de Casseres, Frederick H. Evans, J. B. Kerfoot, Gertrude Stein, and a host of other writers on modern art or photography. Shaw, writing an appreciation of A. L. Coburn, compares his efforts to Bellini, Hals, and Holbein, whose "styles he can emulate at will," and he closes with, "he is free of that clumsy tool, the human hand, which will always go its own single way and no other." Exaggerated claims for photography, even by Shaw, did not lessen the photographic artistry of Coburn whose portraits remain rich and delicate examples of the platinotype and gum-print processes.

Arguments about what constitutes an artist appeared in the pages of *Camera Work*; "Pros and Cons" was a page title for Frederick H. Evans. J. B. Kerfoot wrote "The Rubaiyat of Kodak McFilm." Shaw in "The Unmechanicalism of Photography" cautioned the exhibitors of the London Photographic Exhibition (for which he had originally written the article as a foreword to the catalogue) as follows: "Let nobody suppose that the critics who stood for Sargent against Bouguereau, for Monet against Vicat Cole, nearly twenty years ago, are

STIEGLITZ, Paula. *Berlin, 1889.*

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STIEGLITZ, The Terminal. 1893.

now going to stand for the photographers who imitate Sargent and Monet against original photographers."

What and who was original was aired in every issue, and Stieglitz, brilliant editor that he was, gave each writer, photographer, and artist the right to discover new and personal paths. It was a costly publication. The finest of paper and type faces, hand-pulled gravure reproductions on "rice silk" paper tipped into each issue, and expensive individual designing of each page, made it hardly profitable to publish. The original price was $4 for an annual subscription of four issues. Toward the end it was $8 a year, but, by 1917, when publication was suspended, there were less than forty subscribers. One of the country's most distinguished magazines had folded, and soon 291 closed its doors.

Stieglitz photographed his friends: the artists of his gallery, John Marin, Arthur Dove, Marsden Hartley, Georgia O'Keeffe, Charles Demuth—clear and incisive pictures, brilliant characterizations. For the eight-year interval between the closing of 291 and the opening of the "Intimate Gallery" in room 303 of the Anderson Gallery in 1925, Stieglitz arranged exhibitions of his artists' works in various New York galleries and held three retrospective exhibitions of his own photographs. The contributions of his career were impressively clear to all who attended Mitchell Kennerly's Gallery, where there were exhibited 145 of Stieglitz's prints from 1886 to 1921. The press extolled their virtues. In the catalogue Stieglitz's statement read in part, "My ideal is to achieve the ability to produce numberless prints from each negative, prints all significantly alive, yet indistinguishably alike."

Stieglitz photographed parts of the human body: hands, feet, breasts, buttocks, torso. These portraits without faces were followed with photographs of clouds which Stieglitz called "equivalents." He started out to prove that the merit of his photographs was not dependent on the sitter's personality and appearance or upon the influence Stieglitz exerted over him. In photographing clouds by sunlight and moonlight or shimmering leaves and blades of grass, he endowed these with the equivalent emotion and excitement he had instilled in the portaits of artists or in the buildings of New York.

Stieglitz continued to extend his concepts of photography, re-evaluating his work according to the contemporary requirement of using the full negative sharply. In the new Intimate Gallery he sponsored and exhibited the work of Paul Strand, a photographer of brilliant promise he had added to his roster. In 1924 Stieglitz married Georgia O'Keeffe. That same year the Boston Museum of Fine Arts acquired twenty-seven of his pho-

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STIEGLITZ, Venice Canal. 1894.

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STIEGLITZ, Steerage. 1907.

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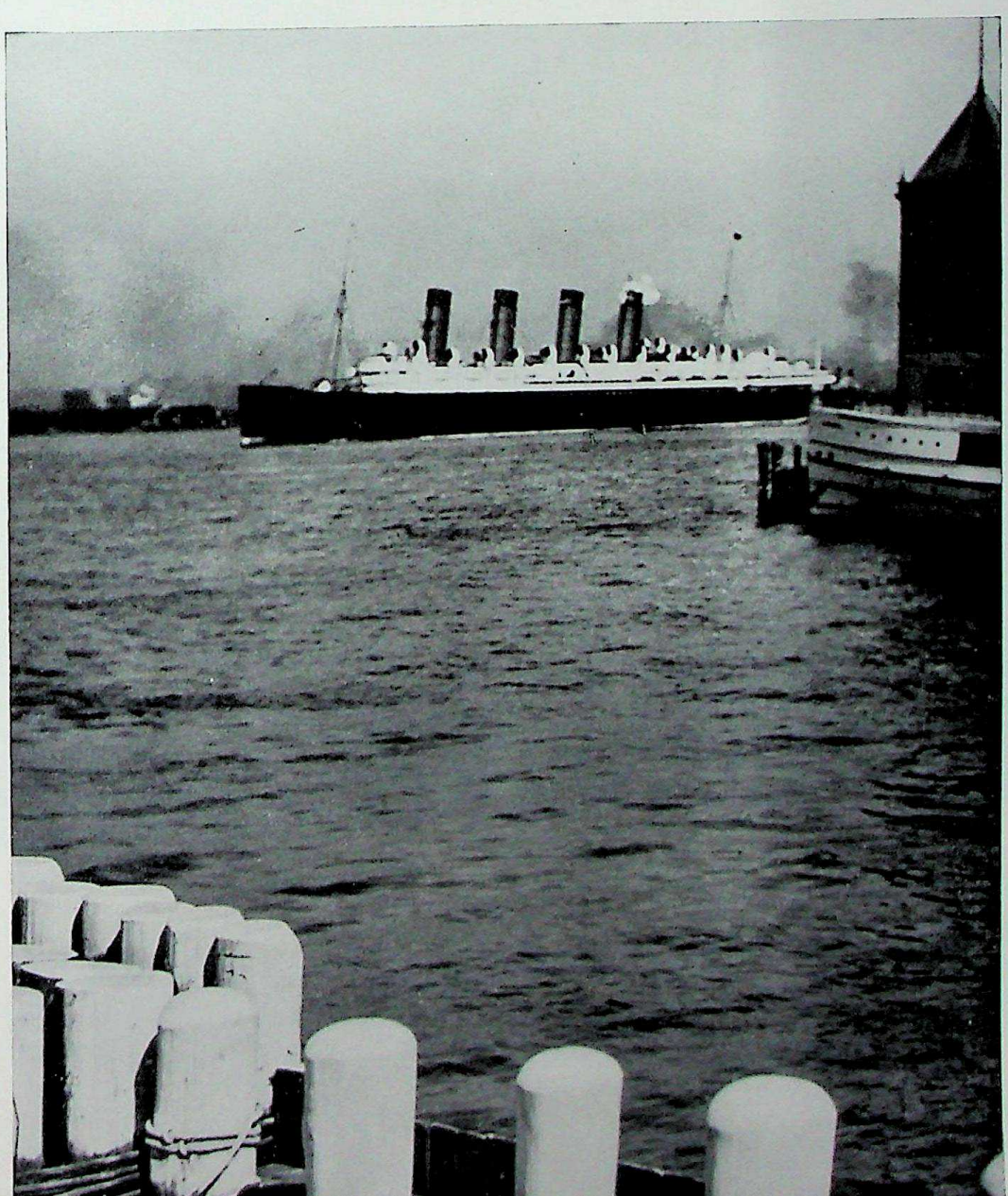
tographs and the Royal Photographic Society awarded him the Progress Medal.

In 1930 he opened An American Place at 509 Madison Avenue in room 1710. His camera lay idle most of the time; he had suffered a heart attack and rarely left the gallery. He saw the artists whom he had handled become accepted internationally and their work enter the nation's major museums. Stieglitz never ceased his efforts to demonstrate the genius of his artists, but his sales methods were decidedly untraditional. He put a possible client out of his gallery and explained, "I am not in business, I am not interested in exhibitions and pictures, I am not a salesman, nor are the pictures here for sale, although under certain circumstances certain pictures may be acquired."

Stieglitz was a powerful and positive personality in the annals of American art. In his lifetime he became a legendary character of whom a collective panegyric portrait, a eulogy, was published twelve years before his death. Today myriads of people recognize him as one of America's pre-eminent photographers, as all over the country they view his prints in museums to which Georgia O'Keeffe donated for posterity the life production of Alfred Stieglitz.

STIEGLITZ, The "Aquitania" Leaving Harbor. 1910.



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STIEGLITZ, Paris. 1894.

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STIEGLITZ, Spring Showers. 1902.

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STIEGLITZ, Reflections at Night. *1896. Collection the author.*

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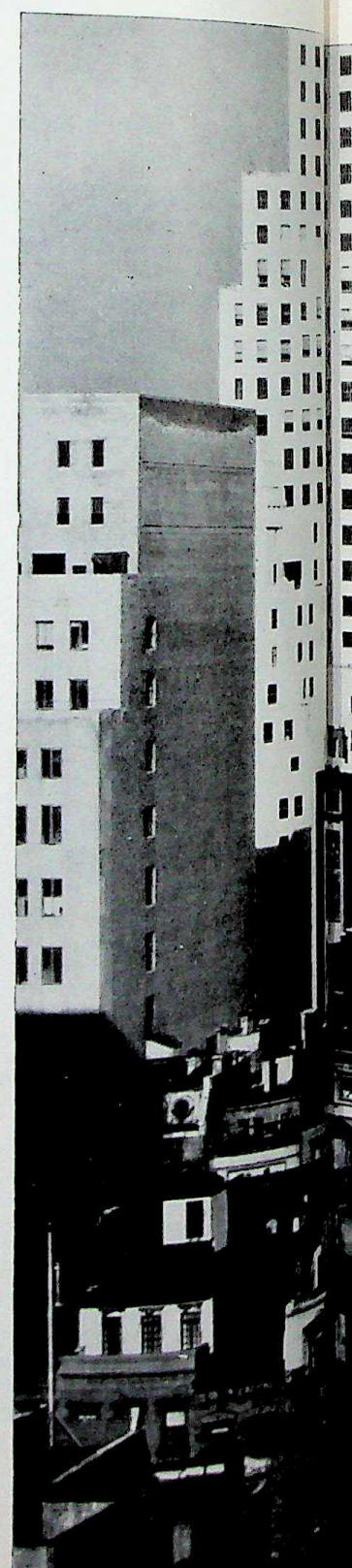
STIEGLITZ, City of Ambition.



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STIEGLITZ, New York City. 1931. *Looking north from 509 Madison Avenue.*

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STIEGLITZ, *below:* Georgia O'Keeffe. *1918.*
opposite page, above: Georgia O'Keeffe Wearing Hat. *1930.*
opposite page, below: Georgia O'Keeffe's Hands. *About 1919.*

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STIEGLITZ, John Marin. 1920.

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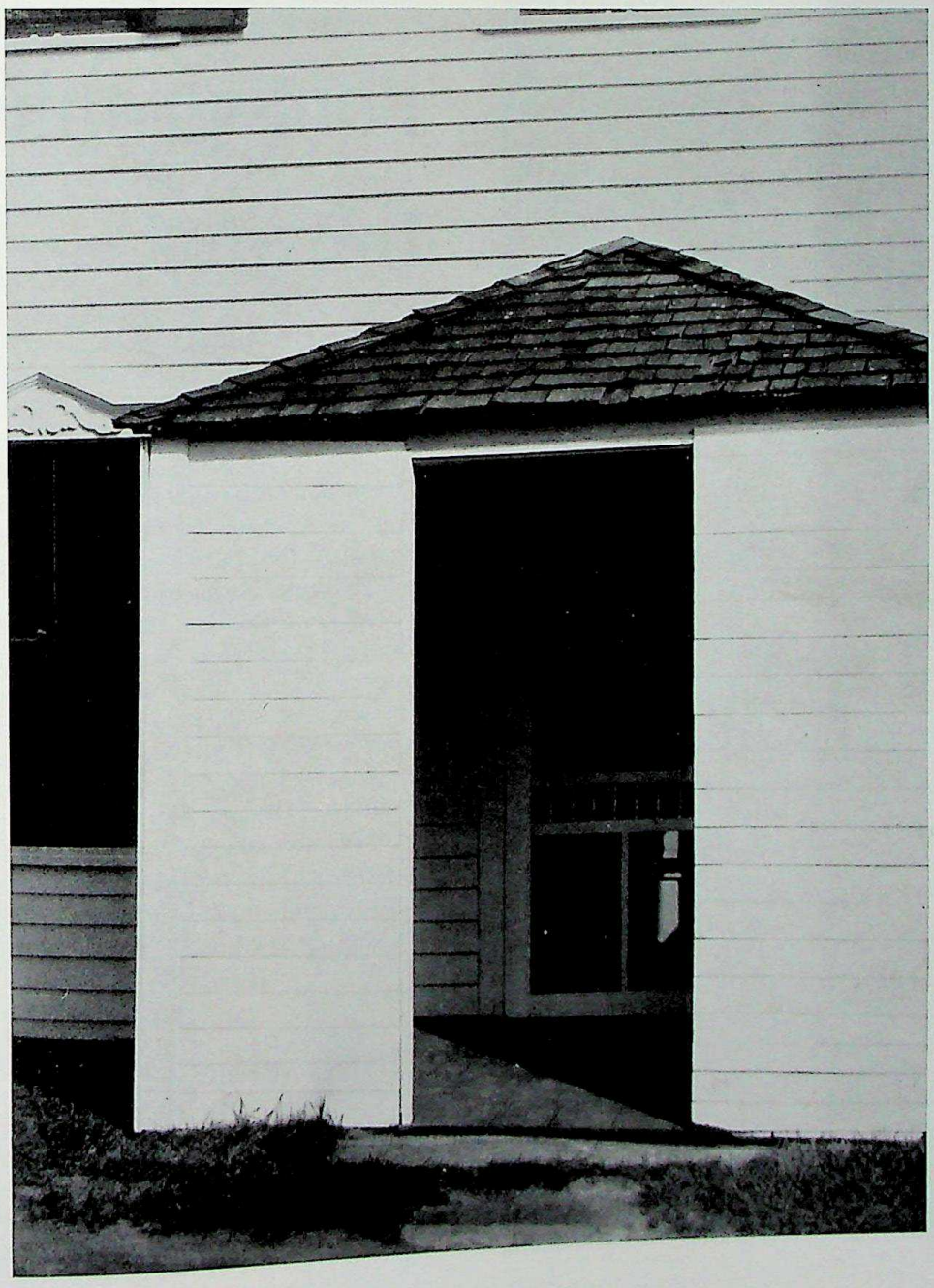
STIEGLITZ, Lake George. 1934.



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21.

Steichen: Painter, Photographer, Curator

EDWARD STEICHEN was born in Luxembourg in 1879, and raised in Wisconsin, for the family soon moved to Milwaukee. At the age of fourteen he came to Chicago to see the art and photography exhibitions at the World's Columbian Exposition. He was going to be a painter. During the next several years he sent canvases to the Art Institute's annual exhibitions, but not one was accepted. He took a job as illustrator in a lithography plant. He made snapshots of people and photographs for advertising. One sold. Again he submitted pictures to the Art Institute of Chicago. This time they were photographs and they were accepted by a jury that included Alfred Stieglitz and Clarence White. Stieglitz and White were impressed with a photograph entitled *The Pool*, which Stieglitz bought two years later and called a "masterpiece" (a term art critics accused photographers of using quite casually).

Milwaukee could not hold Steichen much longer after this bit of encouragement. He went to see Stieglitz in New York soon after the turn of the century. The following year he was in London photographing George Bernard Shaw, preceded by his friend Alvin Langdon Coburn. Shaw was an amateur photographer of three years standing. Why had he taken up the camera? In 1949 he wrote Helmut Gernsheim, in answer to this question, "I always wanted to draw and paint. I had no

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literary ambition: I aspired to be a Michael Angelo, not a Shakespear. But I could not draw well enough to satisfy myself; and the instruction I could get was worse than useless. So when dry plates and push buttons came into the market I bought a box camera and began pushing the button. This was in 1898."

Then Steichen was in Paris. In 1902 he entered two paintings in the Paris Salon and sent also a bunch of photographs labeled drawings, but the jury rejected these just before the opening—not, they explained, because they were not so good as the paintings but because they feared an avalanche of photo entries.

Steichen photographed Rodin flanked by his sculptures of Victor Hugo and *The Thinker*. He became fast friends with the dynamic sculptor and his family. He photographed all Rodin's work, including the monolithic Balzac which, fifty years later, he was to photograph again when the Museum of Modern Art acquired a bronze cast and installed it in the sculpture garden.

Steichen returned to the United States in 1902. He designed the Photo-Secession Gallery at 291. Stieglitz bought prints from him, paying him $50 to $100 each. Stieglitz demanded respect for photography and he demanded a price for photographs. Advertisers not only paid handsomely for the use of photographs; they had to insure the print against the slightest smudge of the printer's thumb.

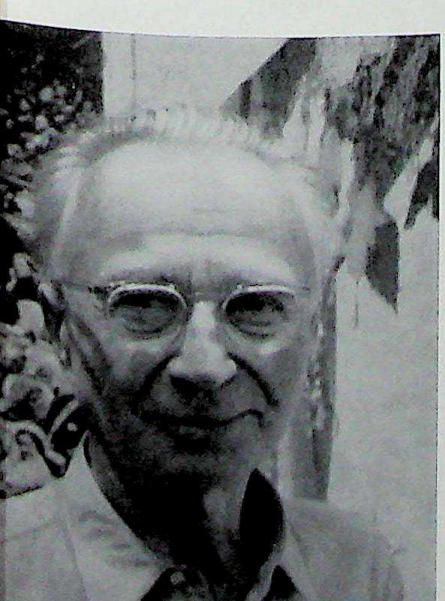
Stieglitz exhibited and sold Steichen's paintings and photographs. The usual price was $50 or $60 per print, but for the portraits of Theodore Roosevelt and William Howard Taft a national magazine paid $500 each for the privilege to reproduce. In the first issue of *Camera Work*, January, 1903, Steichen wrote a statement on "ye fakers," claiming that all artists take liberties with reality and "fake" or make a picture. In the second issue of *Camera Work*, three months later, eight of Steichen's photographs were reproduced plus a tribute to him and his work written by the Japanese-Irish-American art critic, Sadakichi Hartmann. Stieglitz published a Steichen supplement in the April, 1906, issue, reproducing sixteen photographs by photogravure, one in two colors, and in the following issue published a three-color reproduction of a powerful portrait of G. B. Shaw by Steichen.

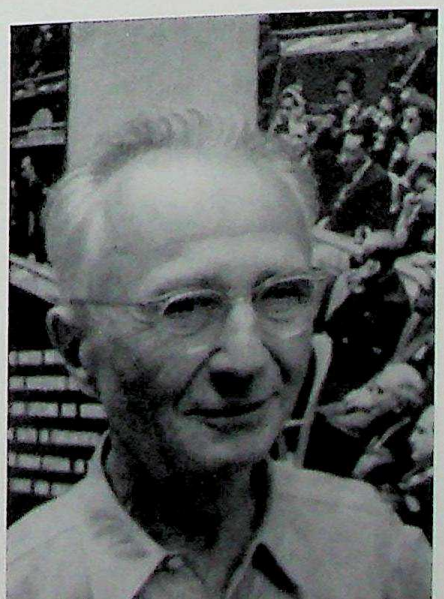
In 1905 the London Salon reviewer, A. C. R. Carter, wrote on seeing the Steichen show, "Is photography an art? Let the answer be, 'Yes, if it's Steichen.' And, some day doubtless another man will spring forth and be to Steichen as Steichen is to Stieglitz. The services rendered to the cause of pictorial photography by Alfred Stieglitz must not be forgotten, for it was his pioneership which cleared the tangled ground and made a Steichen possible."

Robert Demachy wrote, "The best results I have ever seen in the gum process are Steichen's, Puyo's, Watzek's and Kuhn's . . . they have always reminded me forcibly of fine engravings, fine etchings, fine lithographs and fine wash drawings."

An American art critic, Fitzgerald of the *New York*

PETER POLLACK, Edward Steichen. *Three photographs taken with a 9½ mm. Minox camera, 1955, during installation of the* Family of Man *exhibition, at the Museum of Modern Art, New York.*





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Evening Sun, seeing a similar show a bit later, wrote, "I am ignorant whether Eduard [he spelt it with a "u" until after World War I] Steichen is more painter or photographer."

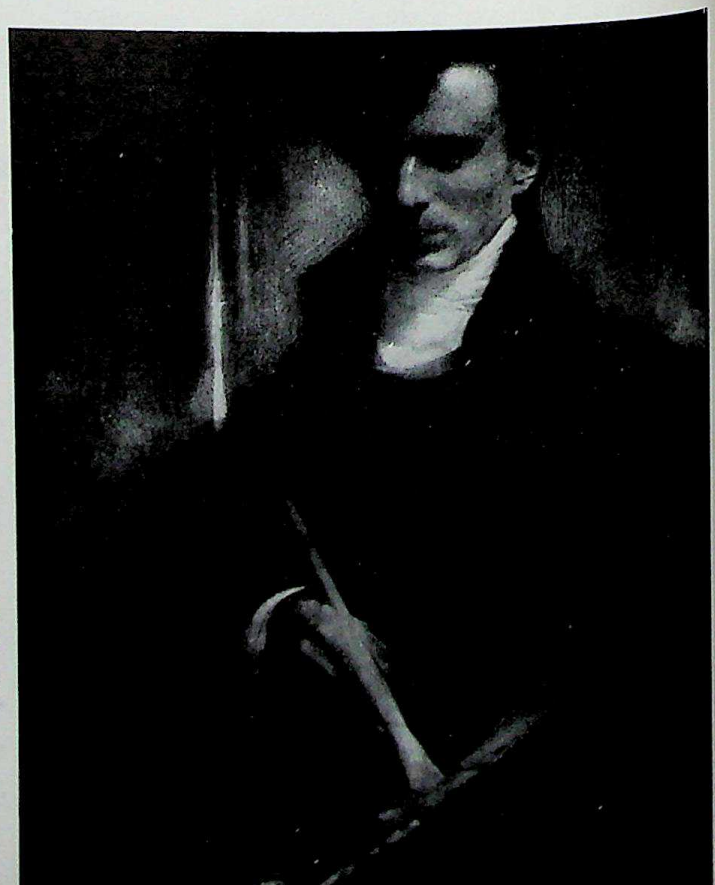
In 1908 Steichen was again in France, this time for a sojourn of six years. Not content to be painter and photographer, he became immersed in the study of plants, not only photographing them but actually breeding flowers for which he was awarded a gold medal by the Horticultural Society of France.

World War I changed his life. He returned to the States. During the Second Battle of the Marne he was appointed technical adviser of the army's aerial photographic services. Here was the end of the gum prints; the arty, fuzzy photograph was a thing of the past. Sharp and brilliant detail was required; photographs had to be so clearly defined that everything could be recognized from aerial views. Lives depended on it. The Army taught Colonel Steichen a new way of photography.

He took a year out after his discharge to experiment with straight photography. He photographed a white cup and saucer against a black velvet background more than a thousand times. He sought perfect control to achieve maximum realism and the faintest, most subtle gradations in white, gray, and black. He put away his brushes, burned his paintings. What he knew of art and design, the keen eye he had developed in painting portraits, now combined with a masterful technique, enabled him to portray forcefully the diverse personalities, the intellectuals and the socially prominent who came to pose.

Elegant fashions and industrial advertising became his forte in photography. He made commercial photographic art pay. In 1923 Frank Crowninshield induced him to join Condé Nast's staff as photographer for *Vogue* and *Vanity Fair*. Wedding gowns and silver, toothpaste and cold cream, matches and watches, a rich variety of the nation's most highly touted products sat for his camera and appeared in the slick magazines along with his por-

All photographs in this chapter are courtesy The Art Institute of Chicago, Stieglitz Collection, unless otherwise noted.



EDWARD STEICHEN, *right:* Self-Portrait. *Gum print, 1902*
opposite page: The Pond. *Steichen's first important photograph. Stieglitz wrote on the back, "Original platinum print bought from Steichen for $5.00 in 1900."*

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STEICHEN, *above:* Rodin with His Sculptures "Victor Hugo" and "The Thinker." *Gum print, 1902.*
right: Clarence White. *Gum print, about 1905.*

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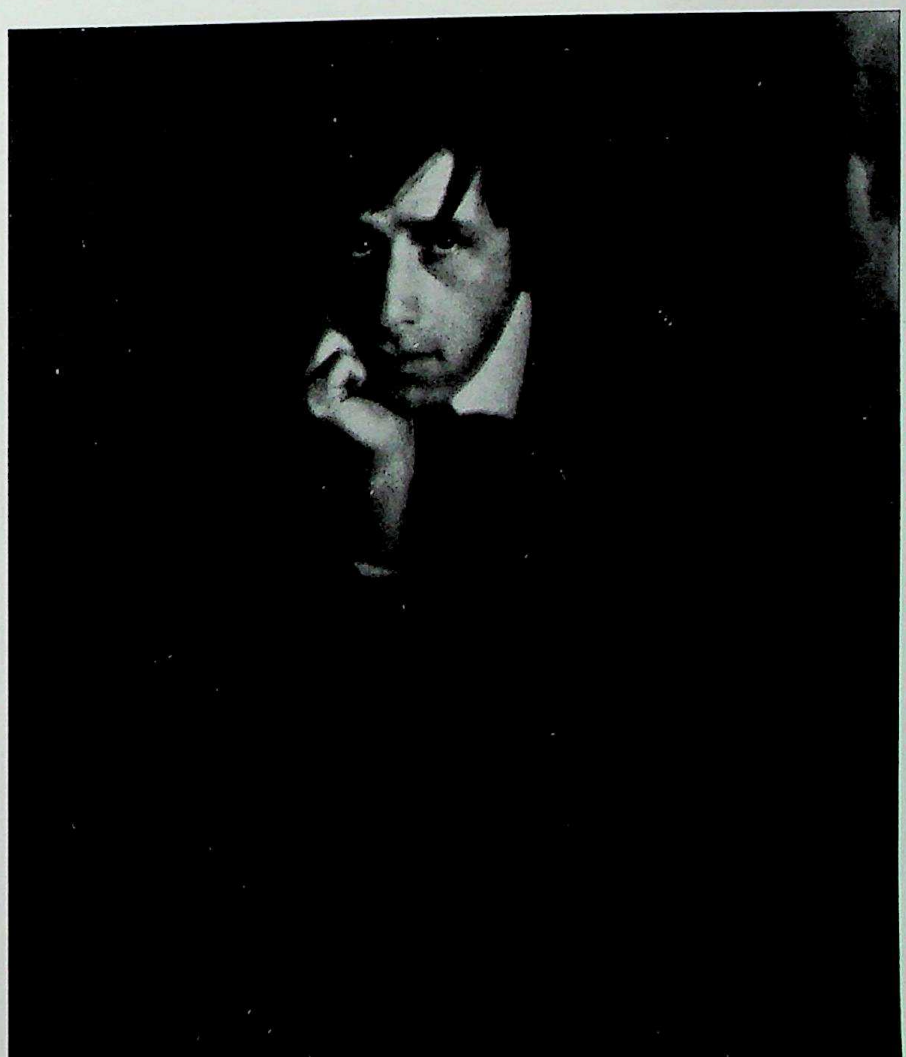
traits of the lettered and the celebrated from all walks of life. His photographs of the twenties and thirties form a pictorial record, like Nadar's and Brady's in their day.

The United States Navy in the early days of World War II waived age limitations for Captain Edward Steichen, USNR. His "Road to Victory" photography exhibition, which was shown in Grand Central Station soon after Pearl Harbor, was a powerful force in unifying the nation's will. There was no one better qualified to organize a department with an avowed purpose to photograph the entire war at sea, no matter how long it would take. The record of the men he commanded adds up to a remarkable pictorial account of every engagement of the Navy that will be a boon for all future historians.

An army colonel in World War I and a navy captain in World War II, the high-ranking officer Edward Steichen fought his valiant battles with film carried by some of the nation's prized magazine and press photographers. He doffed his uniform to serve as director of photography for the Museum of Modern Art, New York.

He arranged photography exhibitions by creative photographers who used any camera or style they chose. Through his efforts photography as an art form found acceptance among critics and visitors along with paintings and prints. No excessive claims were made for photography; no academic form was insisted upon. Only "good" photographs were eligible for exhibition. This example in free expression for creative photography inaugurated by Beaumont and Nancy Newhall, Steichen's predecessors at the Museum of Modern Art, and carried forward by him is now followed by progressive museums all over the country.

"The Family of Man," the most popular photography exhibition ever assembled, was selected by Steichen from among two million prints sent in by photographers from all over the world. This creative exhibition of photographs on a theme is still touring the world. Seen by innumerable visitors, the resulting paeans of praise reflect to the glory of a leader in present-day photography, Edward Steichen.



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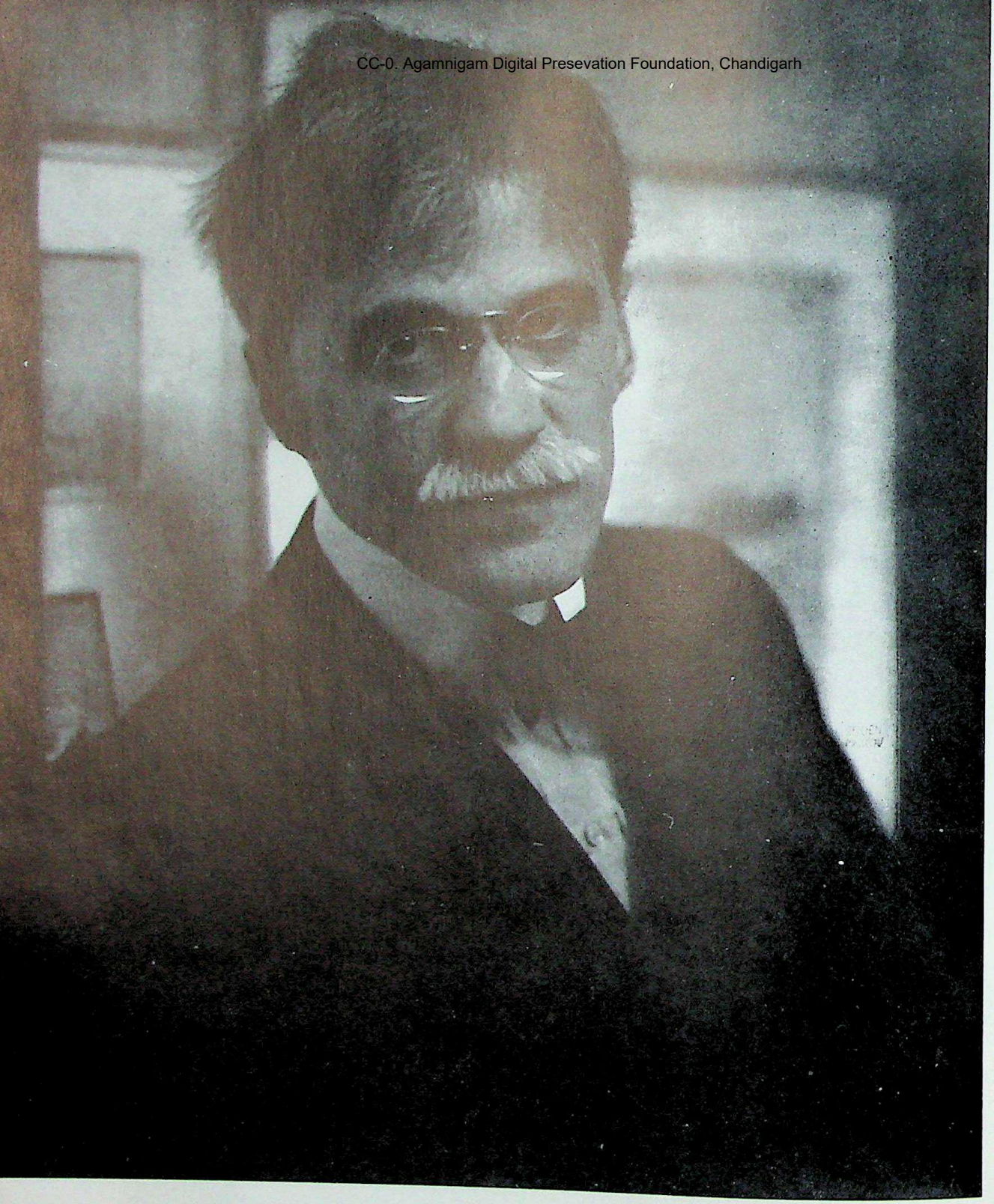

STEICHEN, *above:* Alfred Stieglitz. *Gum print, 1915.*
right: J. P. Morgan. *About 1903. Steichen's most famous portrait, commissioned by the artist Carlos Baca-Flor, whose portrait, painted from this photograph, lies forgotten in a storage bin. The highlight on the arm of the chair resembles a poised dagger held in the financier's hand. Courtesy Metropolitan Museum of Art, New York.*

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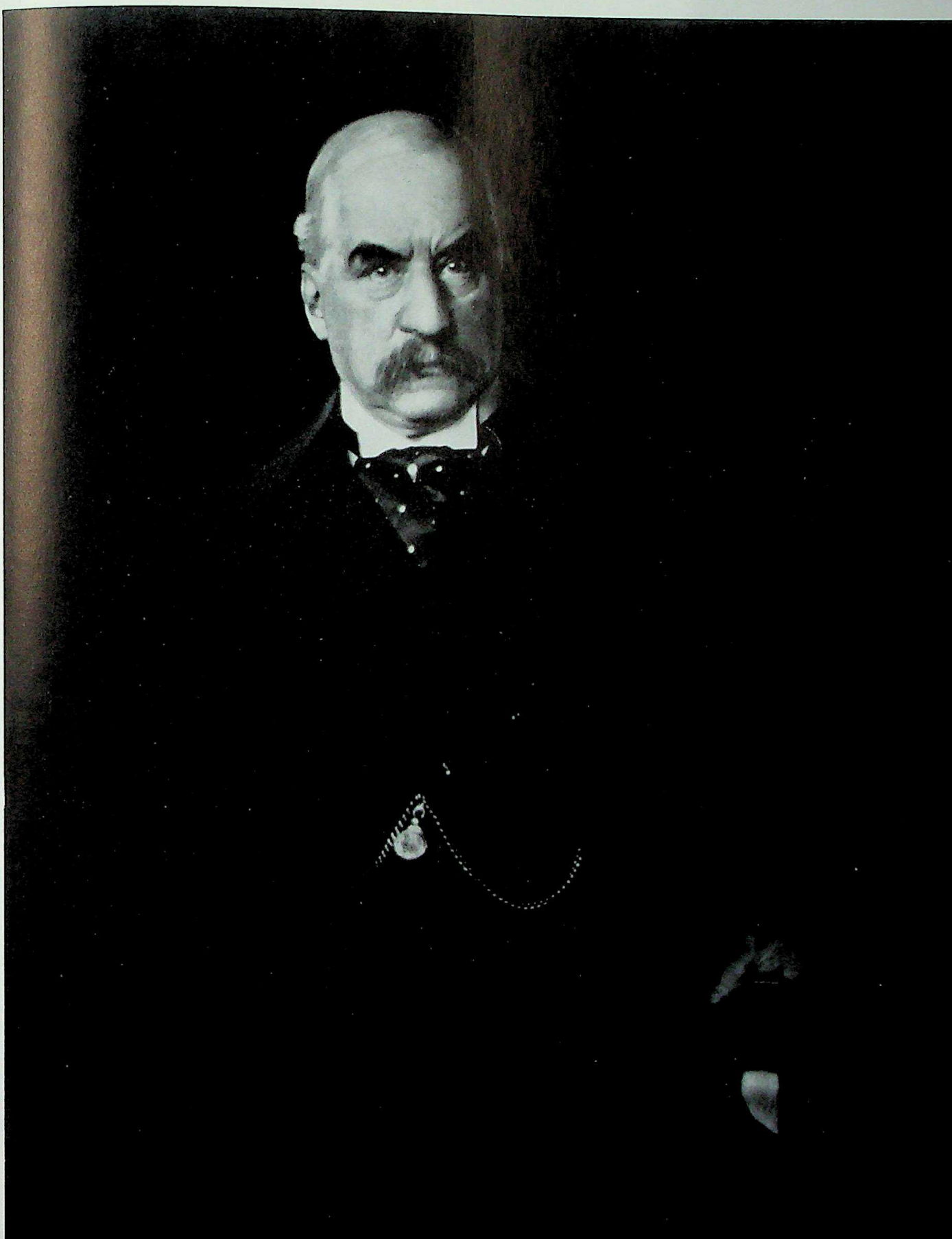

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22.

Atget and the Streets of Paris

TWO YEARS BEFORE THE TURN of the twentieth century, at a time when the woolly, the soft-focus, the arty, the polished, and the overpictorial were the styles most likely to receive recognition in the journals of the day, Alfred Stieglitz in New York, Paul Martin in London, and Eugène Atget in Paris set their cameras to capture authentic photographs of what they saw in the places where they lived. Atget brought honesty into focus for an intimate and direct record of the many-sided Paris that he explored. This record has since become the inspiration for straight, documentary photographers everywhere.

Atget turned to the camera in 1898, when he was forty-two years old. For a decade he had tried to be an actor, playing bit parts in the provinces of France and the suburbs of Paris. He seems hardly the matinée-idol type, this taciturn man who had shipped out as a cabin boy at thirteen and had followed the sea for more than fifteen years before putting on grease paint.

With the decision to leave the stage came the necessity of finding work to support himself and an ailing wife ten years his senior. He tried painting for a year; this was not the answer. He wanted to record everything that he felt was of importance in Paris; for this the brush was inadequate. He acquired a bulky, heavy, view camera with a simple and not very sharp lens; it never left the tripod on which he mounted it. For the next twenty-nine

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years, until he died in 1927, Atget recorded as realistically as possible whatever appealed to him in his beloved Paris. He would carry this cumbersome equipment, traveling by bus in all seasons of the year, often before dawn, to capture the morning light on the silent streets. All districts knew this wizened man, hands and especially fingernails permanently blackened by photographer's chemicals, who was seen standing in a long, stained overcoat, pockets bulging with plate holders for his big 7¼-by-9¼-inch negatives.

His camera was little suited to stop action. He photographed architecture steeped in the atmosphere of the nineteenth century during the first quarter of the twentieth. Decaying châteaux and miserable shacks were his subjects, monuments and markets, staircases, façades, iron grilles, balconies and circus fronts in the flowering style of Art Nouveau, cobblestones and curbstones of empty streets, reflections in store windows and dressed mannikins. All these he photographed with remarkable clarity of detail, making a graphic historical record of his personal and often poetic vision. Critics have since referred to him as "the Walt Whitman of the camera."

He asked people to pose; for with his camera even the slightest movement would cause a blurred image—though he didn't mind ghost images in his pictures of architectural or inanimate subjects. He photographed hawkers of the streets, umbrella men, ragpickers, and streetwalkers. In one photograph a streetwalker stands

EUGENE ATGET, Street Circus. *Paris, about 1910.*

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in the doorway of a house, obviously pleased to pose in her new fox-fur neckpiece, high lace boots, and the pert short skirt of her profession. Atget saw beauty in all manner of things, places, and people.

He made a precarious livelihood by taking commissions from authors; for one author of a book on prostitution he made photographs of brothels in Paris; for the French Archives he made a documentary series of photographs of historical buildings and medieval statuary; and to the artists of Paris he made available photographs of a thousand subjects. On the ground floor of the building where he had a fifth-floor apartment and darkroom was a sign, "Atget—Documents for Artists." Braque and Utrillo were the first to walk up and buy some of his prints at the most reasonable prices; he was so proud to see his photographs being used by the artists. His photographs served as the artists' memory, substitutes for detail drawings or pictures of mood and atmosphere of a given scene that the artist was painting.

Atget had that incredible quality of character inherent in some great artists who willingly spend a lifetime happily working without bothering about fame; men like Henri Rousseau, Van Gogh, Modigliani, and Soutine. Atget was honored by the artists as was Rousseau; Picasso, Marcel Duchamp, and especially Man Ray joined his circle of admirers. He served the Surrealist painters with authentic documents related to their conception of painting incongruous elements in juxtaposition. They honored him in 1926, when he was seventy years old, by reproducing two of his photographs in *La Révolution Surrealiste*, their official organ.

Atget's vision affected painting, but his photographs were not influenced by the paintings of his contemporaries or of the past. He imitated no artist or photographer, but his direct use of the camera is in the tradition of Fenton, Nadar, and Brady. He continued photographing one subject until he was satisfied that he had said something original about some overlooked aspect of Paris or until he was commissioned to do something else. His work grows out of the subject; it is not something derived from the art of painting. That may well be why his work was never exhibited in any photographic salon nor given any official recognition.

Man Ray, painter and photographer, introduced Atget to the Surrealists. And Berenice Abbott, in 1927 while working for Man Ray in Paris, photographed Atget (still in his long coat but quite unexpectedly with face washed and hair slicked down for the occasion) shortly before he died. After his death she rescued most of the 8,000 or so negatives that constituted his life's work. She bought a superb collection of about 2,000 negatives from Atget's landlord, brought them back to New York, made perfect prints, wrote enthusiastic articles and a book about his life, and arranged international shows of his photographs.

All contemporary documentary photographers are indebted to Berenice Abbott for preserving the vital contribution Atget made to photography. His pictures are so inspiring and powerfully honest that they have the quality of transporting the viewer to the time, place, and mood of the image. Atget reveals the perfect instant that best expresses the image he felt so deeply; it is that inborn emotional capacity that is Atget's impact on the seeing of our day. He is the spirtual ancestor of today's best documentary photographers, who carry forward with faster and better equipment his passion for honest, straight photography, endowing the image with explicit fullness composed from accidental arrangements of visual elements.

All photographs in this chapter are courtesy George Eastman House, Rochester.

ATGET, Umbrella Peddler. *1910.*

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ATGET
below: Wellhead. *Paris, about 1910.*
right: Paris Scene. *1905.*

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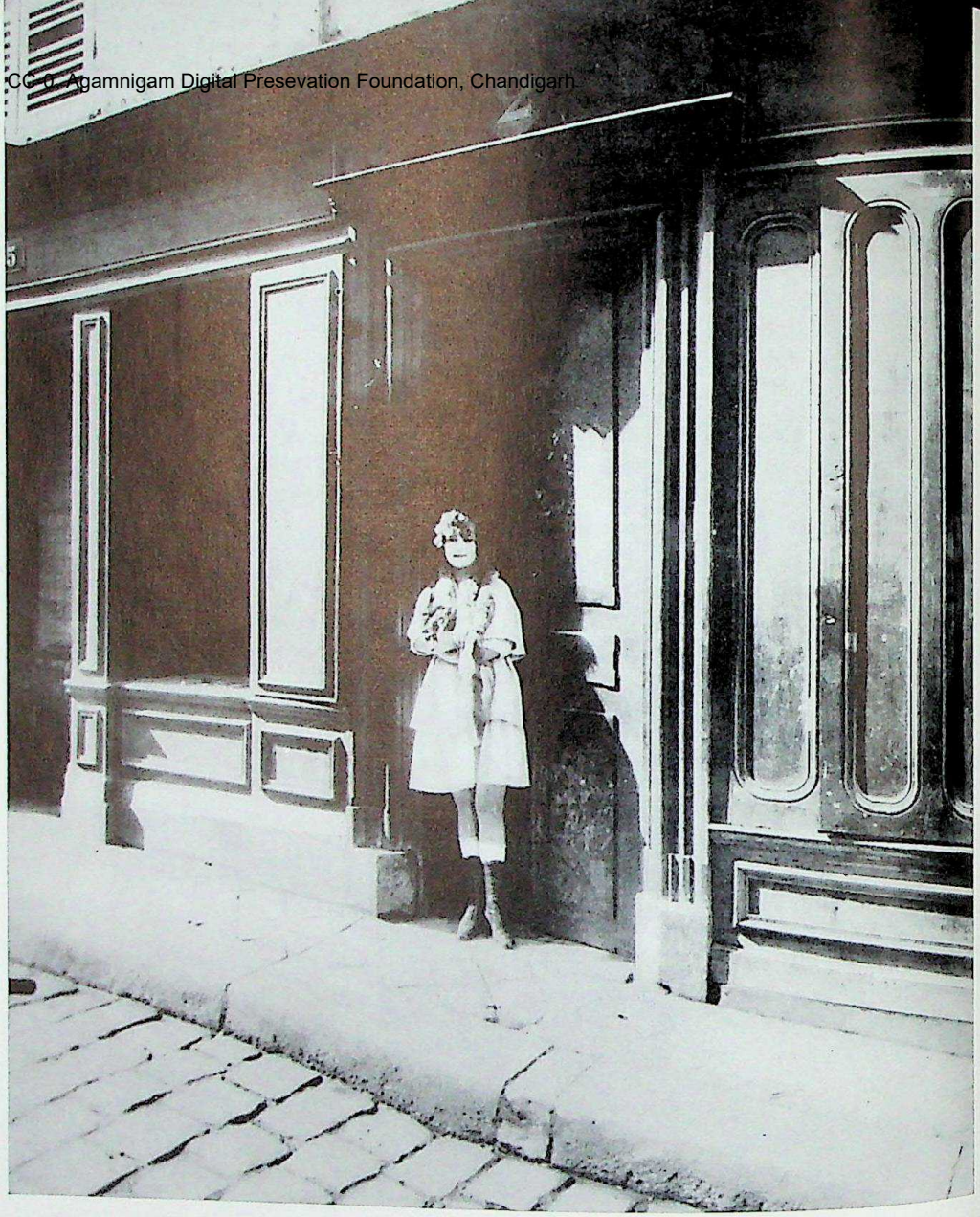

ATGET

above: Girl in Doorway of Brothel. *About 1920.*
right: Shop Window. *Paris, about 1910.*

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23.

Riis and Hine: Social Idealists with the Camera

JACOB A. RIIS

LIKE THE PAMPHLETS OF VOLTAIRE, the photographs of Jacob A. Riis (1849–1914) helped to start a revolution. The revolt was in New York in 1887 against the wretched slums, the degrading tenements, and the venal corruption that permitted this misery to exist. Riis was a police reporter for *The Evening Sun*, America's first journalist-photographer. His writing was convincing, but his camera was decisive in making his work an incontrovertible, powerful weapon. Riis knew the underprivileged. In 1890 he wrote *How the Other Half Lives*, a book about his observations in the overcrowded, diseased, and criminally dark tenements which Lord Bryce in his *American Commonwealth* had called "the conspicuous failure of the city."

Riis was one of the first to use flash when it was introduced in the United States. This consisted of a mixture of powdered magnesium and potassium chlorate; it was first manufactured as cartridges to be used in what appeared to be a pistol. Because it brought out many a concealed weapon of those he would photograph, Riis soon substituted a frying pan to hold the powder which he ignited by hand. It burned in a blinding flash and exploded in the air; Riis photographed and, amid the resulting dense smoke, grabbed camera and tripod and

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ran. In this way he photographed the *Mulberry Bend Hideout* under a bridge, *Lodgings in Pell Street*, and *The East Side Growler Gang*.

He continued to gather evidence, in words and pictures, of the monstrous horrors in the tenements. Some of these five- and six-story wooden firetraps were without light and ventilation except for twilight air shafts. A typical block housed 2,781 people and had one bathtub. A half million people lived in the slums, nine or more to a room. Sweatshops abounded in the tenements, where no child-labor law could protect the children who worked an average of twelve hours a day in permanent semi-darkness for an average of 5 cents an hour.

Riis poked his camera into every unsavory street, into the most unattractive, unglamorous facets of the great city. His pictures and stories appeared in *The Sun;* of his photographs he made slides which he used in lectures; he wrote magazine articles and books. He was to see nine books published altogether, including *Children of the Poor*, 1892; *Out of Mulberry Street*, 1898; *Battle with the Slums*, 1902; *Children of the Tenements* and *Theodore Roosevelt, the Citizen* in 1904.

Theodore Roosevelt, as police commissioner of New York City, abolished the noisome horror of police lodging houses when Riis called his attention to them. Twenty-five years earlier, in 1870, when Riis had arrived in New York from his native Denmark, he had spent nights in the reeking jails. They had grown grimier since that day; the few pennies charge remained the same. Trained as a carpenter and writer, he wandered America's eastern cities from one job to another for the next seven years, until in 1877 he found work as a reporter on *The New York Tribune*.

JACOB A. RIIS, The Street, The Childrens' Only Playground. 1892.

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It was as a journalist with pen and camera that Riis made his tremendous pioneer reforms. Through his untiring efforts rear tenements were destroyed, child-labor laws were amended and enforced, a truant school was established, and desks became compulsory equipment for children in the schools. One of his greatest triumphs was the elimination of Mulberry Bend, a hangout for a bunch of toughs. A year later an appreciative city built a park and settlement house on this site, naming it in his honor. Today housing projects, schools, parks, and playgrounds all over the country are named to commemorate Jacob A. Riis.

It is Riis the photographer who concerns us. He used the camera only to illustrate his stories, to prove with documentary evidence the truth of what he was writing. He would never have considered his pictures works of art; he would not have indulged in such discussions. His interest would have extended to techniques that would guarantee a clearer, more detailed picture. Nevertheless, this dedicated man left a mighty series of pictures motivated by the depth of his humanitarian feelings. Their purpose accomplished, his photographs remain persuasive and moving pictures deeply appreciated every time they are exhibited. Riis's son, Dr. Roger William Riis, presented 412 of his father's glass negatives to the Museum of the City of New York, where, under the direction of curator Miss Grace Mayer, exhibitions of Riis's photographs are often shown.

All photographs in this section are made by John H. Heffren from the original Riis negatives, courtesy Museum of the City of New York.

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RIIS, *above:* Bandits' Roost, 59½ Mulberry Street. *1888.*
opposite page: In Sleeping Quarters, Rivington Street Dump. *About 1892.*

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RIIS, *above:* Little Susie at Her Work. *About 1888.*
opposite page, above: Home of an Italian Ragpicker.
One of earliest flash pictures in the United States, 1890.
left: Reporters Office, 301 Mulberry Street. *1888. Riis served here as a police reporter for the Evening Sun.*

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RIIS, *above:* Necktie Workshop in a Division Street Tenement. 1890.
right: A Class in the Condemned Essex Market School with Gas Burning by Day. 1902.

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LEWIS W. HINE

THE UNENDING POLEMIC regarding art and photography that raged among the members of Photo Secession and in the pages of *Camera Work* touched Lewis W. Hine (1874–1940) hardly more than it did Jacob A. Riis. Hine was a trained sociologist who learned how to use the camera in order to satisfy an urgent need to take honest pictures telling forceful truths about intolerable injustices which he saw all around him.

Lewis Wickes Hine was born in 1874 in Oshkosh, Wisconsin; as a boy he worked long hours a day in a factory, learning first-hand what he was to photograph later. He studied at the State Normal School in his home town, then attended the University of Chicago and New York University, from which he received a master's degree.

In 1901 Hine went to teach at the Ethical Culture School in New York. Two years later he acquired camera and flash gun. He learned control of his equipment through trial and error as he took photographs intended to dramatize the school's program.

He gave up teaching to become a full-time photographer. He became a free-lance conscience with a camera. Ellis Island, New York's port of entry where millions of immigrants first saw the "promised land," drew him to photograph sad-eyed "madonnas" surrounded by their bundles and children. He followed them through the gates into the overcrowded slums, the swarming streets, and the impossible, enslaving jobs. All this he put into sharp focus as a social indictment against the conditions offered its new citizens by the nation's largest and richest city. The magazine *Charities and the Commons* published these pictures in 1908. The same year the magazine's editors hired him to make a complete, sociological study with his camera of miners' lives; a truthful and comprehensive portrayal of their housing, health, children, education, and death, which was published as *The*

All photographs in this section are courtesy George Eastman House, Rochester.

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LEWIS W. HINE, *above:* Little Spinner in Carolina Cotton Mill. 1909.
left: Group of Newsboys. *Taken with flash at midnight on Brooklyn Bridge, 1909.*

Pittsburgh Survey. Three years later he was appointed staff photographer for the National Child Labor Committee to investigate child-labor conditions existing in the United States. Hine returned with a series of appalling pictures that shocked the country. Children as young as eight years old worked in cotton mills tending machines, were hired as coal breakers in dangerous mines, and sold newspapers in freezing weather late at night. These starving, exploited children had little chance for an education or hope for the future. Hine took notes of what they said and estimated the children's size by marking his vest buttons. He kept a sociological record of their health, their habits, and all he encountered. The nation reacted immediately. His vivid photographs, published as human documents, were strikingly clear. A protective child-labor law was passed. Hine had made the camera into a formidable weapon for social progress.

In World War I he was with the American Red Cross overseas as a photographer, and after the armistice he remained with Red Cross Relief to feed the desolate and help the wretched in the Balkans.

He returned to New York in 1920. He still lugged his big camera. He was a sociologist; not all America was sordid and slums, not all workers were exploited and

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enslaved. He believed in his country; he believed in the people from all over the world who came to this land and built this country. He took hundreds of pictures of *Men at Work*, vigorous men with pride in themselves and in their work. A positive statement was to be made. What was more positive than the Empire State Building then being erected? He was hired as its official photographer. All the languages heard in the tenements were heard here also. Floor by floor Hine photographed the men building the nation's tallest skyscraper. He toasted his bread alongside them in the forge used to heat rivets. His photographs ingeniously reflect the men's attitude towards the work and the building. "Topping Out Day," when the last girder of the mooring mast was riveted, Hine had himself swung out on the end of a crane. His legs twined around the hook, a clumsy 4-by-5 camera in both hands, intent only upon capturing the historic moment on his film, he knew no fear. No one was there to take his picture hanging perilously over New York's streets. The men's job was done. Hine had a series of fine photographs, not a mere record glorifying labor.

Hine, humanitarian with a camera, wrote his own best explanation of his purposes: "There were two things I wanted to do. I wanted to show the things that had to be corrected. I wanted to show the things that had to be appreciated."

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HINE, *below:* Breaker Boys Inside the Coal Breaker. 1909.
left: Tenement Dweller Carrying in County Coal. *Chicago,* 1910.

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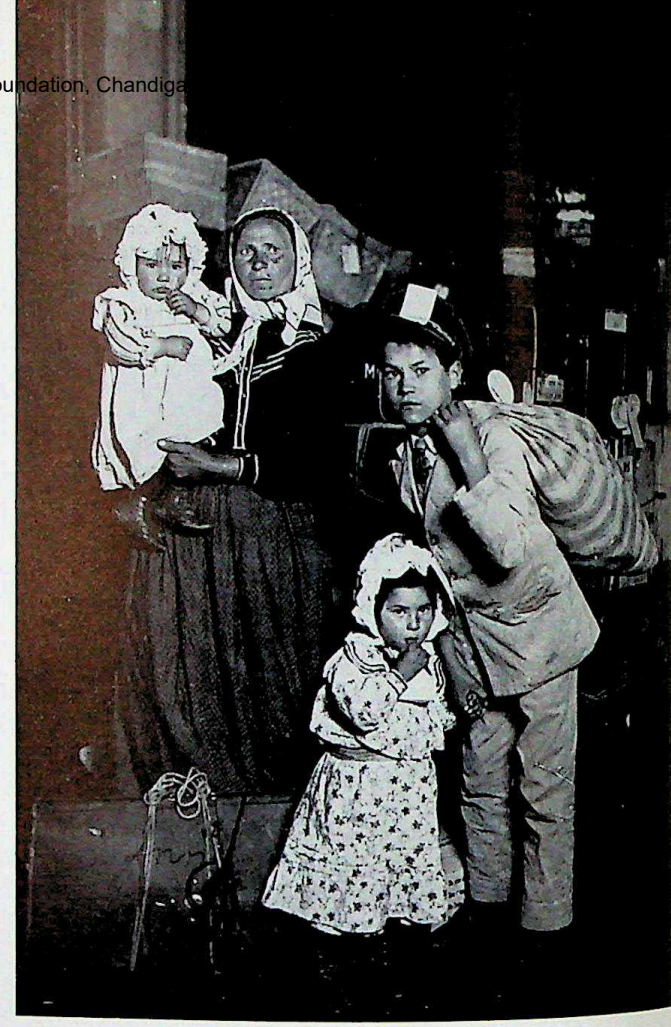

HINE, *below:* Sidewalks of New York. 1910.
right: Italian Family Seeking Lost Baggage. *Ellis Island*, 1905.
opposite page: Madonna of Ellis Island. 1905.

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HINE, *above:* Derrick Men, Empire State Building. 1931.
right: Riveting the Last Beam, Empire State Building. 1931.

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24.

Genthe—Celebrities and Anonymous Throngs

Arnold Genthe (1869–1942) thought he had invented the candid photograph about a half century ago, but what he actually created is as formalized as the portrait technique he so valiantly fought.

For thirty years he took pictures of the world's great. Three Presidents sat for him: Theodore Roosevelt, William Howard Taft, and Woodrow Wilson; two of the nation's wealthiest men: John D. Rockefeller and Andrew Mellon; many international celebrities of the stage —Bernhardt, Pavlova, Isadora Duncan, Ellen Terry, Greta Garbo, Eleanora Duse; and the highborn everywhere. With his camera he traveled the entire world.

Dr. Genthe (it was not an honorary title; he received a doctorate from the University of Jena for work in philology in 1894, before he was twenty-five years old) was an urbane bachelor, six-foot-two, charming, and an accomplished linguist. With his beautiful head and courtly manners he was considered one of the most artistic candid photographers of his time.

But his was not candid photography as we see it today. The only thing candid about it was that he snapped the shutter when the sitter didn't expect him to. What Genthe tried for was "art" photography; his purpose was to make the photograph resemble one or another of the graphic arts.

A familiar nude was a copy of some ancient Greek

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torso; he called it "living sculpture." A portrait of an American girl's profile was skillful when it was made to resemble that of the Venus de Milo. Portraits, no matter of whom, were most successful when they were mistaken for mezzotints. Pictures of dancers on the beach were deliberately made to resemble soft-ground etchings or charcoal drawings; landscapes in effect became muted water colors.

Emphasis was on soft focus with velvety blacks and brilliant whites, ideas he took from the chiaroscuro paintings of Rembrandt and Caravaggio or from lithographs by Toulouse-Lautrec; he created what became known as the "Genthe style."

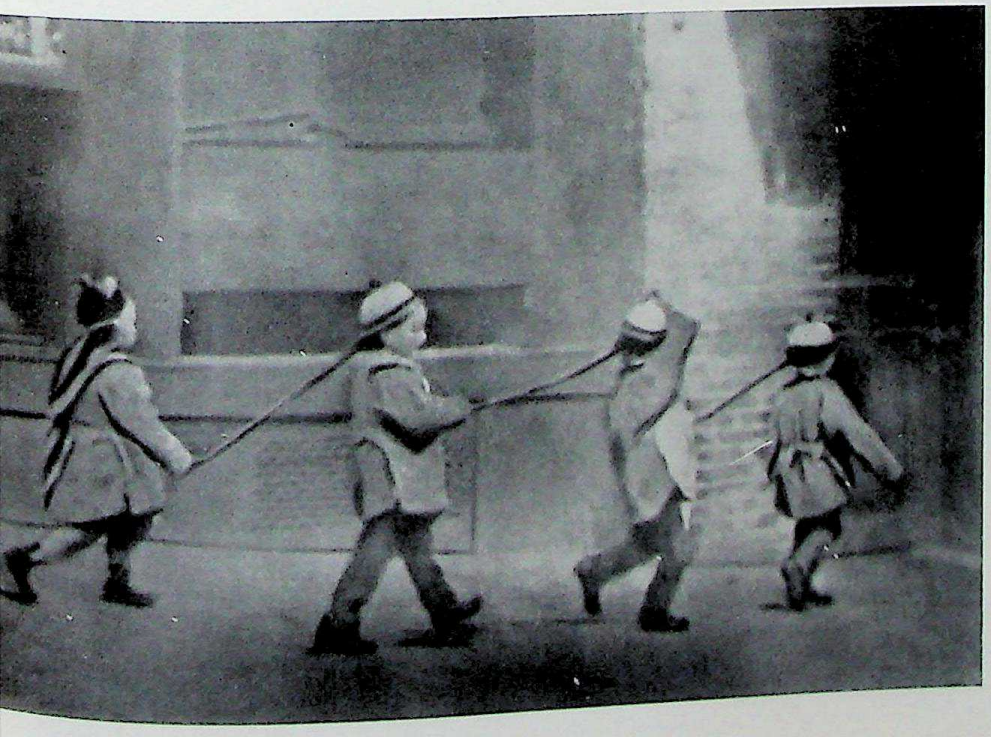
Still, he was a radical with a camera, for he gave it the respect an artist has for his equipment, and he made it work for him creatively. He broke with the muscle-bound traditions, the uniform sharpness, the characterless stiff poses that were the characteristic of photographers of the day, especially in San Francisco, where he opened his first gallery around the turn of the century. Nor did Genthe indulge in the practice prevalent in commercial studios and arty photographic circles of retouching or drawing on a negative.

He was selective, a master in modeling with light, always attempting to capture the poetic mood, thereby creating his conception of a romantic picture. A soft moonglow suffuses all his important portraits. Through film, lens, lighting, and the use of mat paper for printing, the age lines of his sitters were eliminated.

In several portraits he indicated ideas which have been further developed in our day by magazine photographers who portray the subject set in the midst of his profession's symbols. In the twenties Genthe made a series of photographs in which the subject is surrounded by props: Henri Charpentier, the chef, is seen wearing a huge white cap, holding a pot lid open over a stove; Childe Hassam stands beside an etching press. These were made in the studio and bear the imprint of Genthe's academic romanticism—he strove, he said, "to show the mind and the spirit of the person."

His greatest pictures he took in 1894 when he first arrived, in San Francisco's Chinatown, and, a little more than a decade later, when he photographed the earthquake which destroyed San Francisco. It is for these exceptional, honest pictures, deeply charged with feeling, rather than for the Genthe style of art portraiture that he will be remembered.

San Francisco's Chinatown sixty years ago was a transplanted Canton; few changes were made when it was moved from the opposite shores of the Pacific. It was



All photographs in this chapter courtesy The Art Institute of Chicago.

ARNOLD GENTHE, Pigtail Parade, San Francisco. *About* 1897.

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GENTHE, Street of the Gamblers, Chinatown, San Francisco. *About 1896.*

an Oriental city within the city of San Francisco. Ten thousand black-clad men shuffled silently in the sandalwood-scented streets, streets with such descriptive names as the "Street of the Sing Song Girls," "The Street of the Gamblers," "The Street of the Butchers," and many others including the "Devil's Kitchen." Genthe shuffled along with the denizens of the district. He became a familiar figure. Unobtrusively he slipped a small camera with its fast Zeiss lens from his pocket.

To the superstitious Chinese, young and old, the camera was a "black devil box" which contained all the evils of the world ready to pounce out on them when the box clicked.

Genthe took the only complete record extant of Chinatown and the strange people and places that flourished with their Oriental flavor in the dissolute, beautiful city of the Pacific Coast. He took photographs of the derelict dope addicts and murderers, the rich, silken-embroidered costumes of the merchants and their children as they lived within painted frame buildings supporting balconies festooned with flower pots and gay, multicolored lanterns hanging in the cool courtyards.

It was all wiped out in one angry day, April 18, 1906, the day of the earthquake of San Francisco. Genthe's powerful pictorial record remains, a remarkable series of *documents* made years before the word was ever used in connection with photography in America.

The day it happened Genthe's studio fell apart at the first tremor. Fire wiped out everything a little later. By this time picture taking with him was automatic. He borrowed the first camera he laid hands on in a store he found open. It was a simple box, a 3A Kodak Special. He stuffed his pockets with film and he roamed the devastated city from Fisherman's Wharf to Nob Hill, shooting pictures of the collapsing, dynamited buildings, the consuming fires, and the dazed, wandering people.

Genthe lost his studio, his equipment, his precious library of three thousand volumes, but he fortunately saved the negatives of his Chinatown pictures. Will Irwin, a writer with whom he later collaborated on a book, had prevailed upon Genthe to put his Chinese

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negatives in a vault. They came through the fire unscathed and now are in the Archives of the Library of Congress.

Genthe was to stay in San Francisco five more years. From 1911 to his death in 1942 at the age of seventy-three, his studio was in New York, on the top floor of a building in the heart of the shopping district. He roamed the world taking pictures of people and places, in his soft-focus Genthe style, not like the earlier sharper, profounder pictures he had made in San Francisco when he first took up the camera.

In New York Genthe gained an enviable reputation as a photographer of tycoons and celebrities in all fields; here he perfected his internationally popular technique. In his autobiography written late in life he commented, "Today I have only gratitude, untouched by regret, for my part as one of the pioneers in the development of an art which has done so much to spread the gospel of beauty . . ." [I helped] "lift photography from the mechanical, lifeless medium it had become to the dignity and status of a real art."

It is strange—a lifetime as a portrait photographer of great names, and Arnold Genthe's most memorable portraits were made in the first decade of his life as cameraman in San Francisco's Chinatown, where there were no names of importance, only anonymous throngs.

GENTHE, *below:* Chicken Vendor.
right: Street of the Balconies, Chinatown, San Francisco. *About 1896.*

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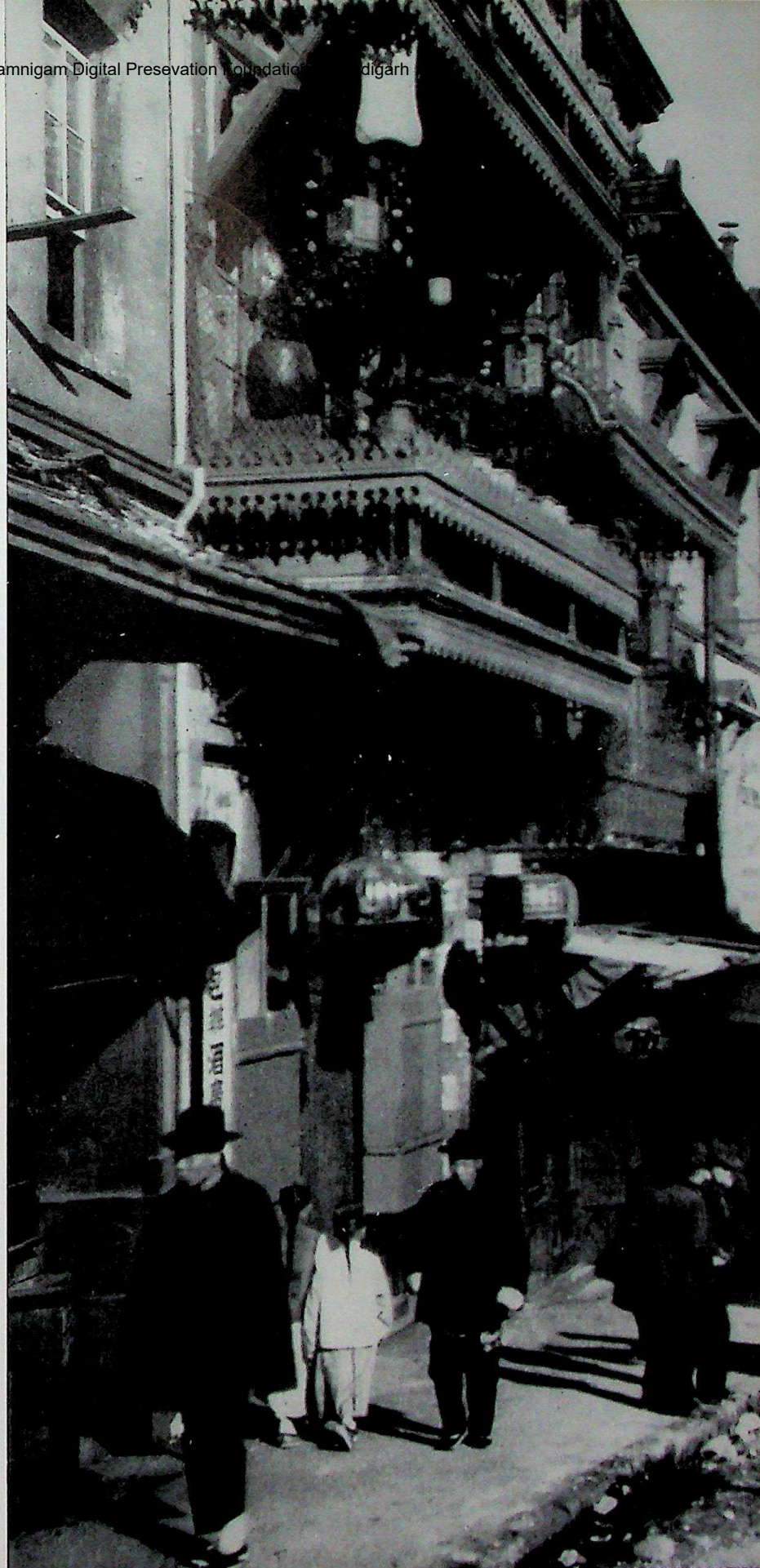

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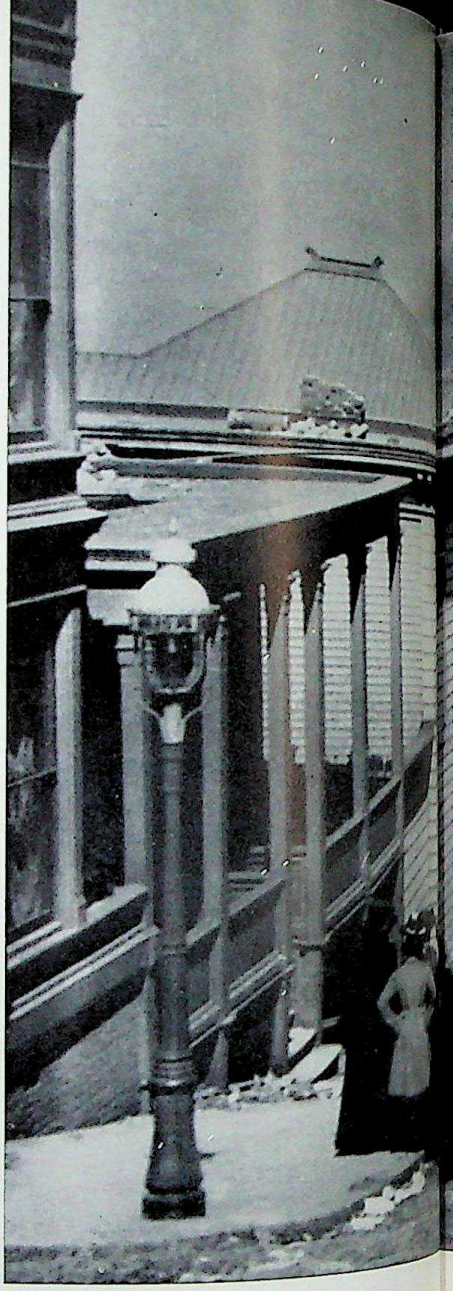

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GENTHE, *Scenes of the San Francisco earthquake and fire, week of April, 1906. Prints made by Ansel Adams from original negatives. above:* View of Sacramento Street. *opposite page:* Two Views.

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GENTHE, *below:* Greta Garbo. *About 1925.*
left: Isadora Duncan. *About 1920.*
far left: Eleanora Duse at the Age of Sixty-four. *1923.*
right: Margaret Severn. *About 1920.*

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25.

Edward Weston: A New Vision

VERY FEW CREATIVE PHOTOGRAPHERS were trained as cameramen. Most were artists, others teachers, engineers, musicians, writers, sociologists, following professions which gave them little if any aesthetic satisfaction. Often as mature men they became photographers to experiment and explore a personal way of seeing, to create their kind of a picture.

Edward Weston is the exception, the rare creative photographer who as a boy definitely knew his destiny. He told me in his cabin near Carmel, California, in 1952, "I saw my first exhibition of photographs at the Art Institute of Chicago exactly fifty years ago when I was sixteen. It changed my whole life. I made father buy me a camera and from that moment on I was absorbed with it."

Three years later, in 1905, he was in California canvassing door to door, hauling a post-card camera, and taking pictures of babies, family groups, marriages, funerals; a dollar a dozen was the usual price. He worked in commercial studios, he studied and mastered the intricacies of the darkroom. Portrait photography was to be his livelihood.

He married in 1909 and in the next decade fathered four sons. In 1911 he opened a portrait studio in Tropico, California. He specialized in portraits of children and he started to use natural light inside his studio. Soon Weston became a name to reckon with in portrait and pictorial

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photography. Honors were heaped upon him; he was elected to the London Salon and, closer to home, he demonstrated and lectured on his techniques. One-man shows added to his reputation but his soft-focus "arty" photographs, so acclaimed by the amateur and the camera clubs, left him feeling empty and unsatisfied. He knew that the pictures were tricky, but what qualities he wanted to capture with his camera, he still did not know.

Had it not been for the San Francisco Fair of 1915, where Weston was introduced to modern art, creative music, and contemporary literature, he might have continued to photograph "exalted portraits" to meet the financial demands of his growing family. Under the stimulus of abstract art Weston generated a creative response within himself. He broke with his former successes; he no longer submitted his pictures to the salons. But he had no steady means of income; so his conservative friends and family frowned on these Bohemian antics.

Weston went back to his camera. He experimented constantly with the extreme close-up and the abstraction. He created heightened effects in shadows by mixing artificial and natural light and he photographed fragments of the figure rather than the entire human body. He found he could express himself as an artist with the camera; he was as original with his chosen medium as the artists he respected and he did not have to emulate their styles.

Beginning in 1922 in Ohio, he made the first of his dramatic compositions revealing the clear forms and rhythms inherent in the great manufacturing plants of American industry. The abstract designs to be found in the substantial reality of architecture which Weston disclosed in his photographs immediately influenced photographers who still exploit his conception.

August 2, 1923, on board ship from New York to Mexico, Weston makes a first entry in his Day Book. "Certainly it is not to escape myself that I am Mexico bound . . . I am good friends with myself. Nor do I hunt new subject matter, that is at hand out the back door—anywhere . . . I feel a battle ahead to avoid being swept away by the picturesque, the romantic."

Three weeks later in Mexico City he notes his exhibition is attended by "men—men—men—ten to one woman. I have never before heard such intense and understanding appreciation."

By January of next year he records, "I am now only approaching an attainment in photography that in my ego of several years ago I thought I had reached long ago. It will be necessary to destroy, unlearn and rebuild." He scrupulously scrutinizes all he had produced, comparing his former work with the portraits and the pictures of maguey plants he now photographs. He is not satisfied. He goes back to experiments, photographing still lifes of the toys and objects found in the house. He visits Mexico's pyramids and small towns, searches landscape, sky, and people for new visions with his camera, for photographs to perpetuate the peak of his emotional, artistic seeing. He is seeking the precise pinpoint in time before he snaps the shutter, and for his income he carefully tends a little portrait studio in Mexico City.

In September, 1925, after a brief visit to California he returns with his son Brett. He holds an exhibition of his photographs in the State Museum of Guadalajara. The powerful painter of protest, Alfaro Siqueiros wrote, "In Weston's photographs the texture, the physical quality of things is rendered with the utmost exactness, the rough is rough, the smooth is smooth, flesh is alive, stone is hard. The things have a definite proportion and weight, and are placed at a clearly defined distance one from another . . . the beauty which these photographs of Weston's possess, is *photographic beauty*."

His stimulating friend, Diego Rivera, wrote, "Few are the modern plastic expressions that have given me purer and more intense joy than the masterpieces that are frequently produced in the work of Edward Weston . . . There is not in Europe, by far, a photographer of such dimensions . . . Edward Weston is the American artist, one whose sensibility contains the extreme modernity of the plasticity of the North and the living tradition of the Land of the South, Mexico."

The third of the triumvirate who fathered the Mexican Renaissance, the one-handed José Clemente Orozco, did not write about Weston, but five years later he arranged and installed Weston's exhibition of photographs in New York City.

One entry in the 1926 day book Weston kept in Mexico, reads, "Give me peace and an hour's time and I create. Emotional heights are easily attained, peace and time are not," and a later entry the same year, "I have been slow developing, perhaps laying the stronger foundation. Almost forty and am now beginning to realize—to see."

Cézanne's old complaint in his exact word "realize." The cry of a creative artist used when he could not satisfactorily complete a painting as he sat in front of Mont St. Victoire in southern France, now, unawares, used in the same way by Weston trying to create his kind of a picture before the mountains of Mexico.

Weston loved the country, the landscape, the people, and the art world of which he had become a vital part,

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but Mexico couldn't keep him; his roots were to the north. In January, 1927, he writes, "During these three months since returning to California I have done nothing for myself . . . I am not yet an integral part of these surroundings, one foot is still in Mexico."

A fertile artist does not lie fallow long. By April he had photographed two nudes, "which go beyond those considered fine in Mexico" and a month later he records, "I have two new loves, bananas and shells." That summer he added radishes, eggplant, canteloupes, artichokes, cabbages, and peppers. Vegetables became vital to his artistic life. He saw sculpture in growing forms ever-changing in the light. New discoveries in seeing, surface textures, interrelated rhythms, movements in shapes, and designs which critics called erotic symbols. The selective power of Weston had conceived of a shell and a vegetable as something monumental just as he had reduced a mountain to the intimacy of a figure. He had created an artistic entity with his camera, willfully isolating his subject, deliberately selecting film, lens, paper, and chemicals to complete a photographic image he envisioned before he exposed.

The following summer he and his son Brett closed a portrait studio they had tried in San Francisco and moved south to Carmel in the mountains near Monterey. With his 8-by-10-inch view camera he was soon out taking pictures of tangled tree stumps, eroded rocks, and the sea at Point Lobos which his poet friend, Robinson Jeffers, had described as "strange, introverted and storm-twisted." It had a beauty that stamped itself on his emotions, resulting in a series of his most exciting photographs of nature.

In 1932 Ansel Adams, then a pianist with an amateur's portfolio of pictures, Willard Van Dyke, Imogen Cunningham, several other young independent photographers interested in sharp focus, and Edward Weston, formed a group they named "f64" after one of the small shutter stops which allow for straight, clear detailed pictures. It was a stand in the mountains of the West against the plague of the pictorial salon rolling across the country. The group held its first exhibition of straight photography in the De Young Museum in San Francisco. The exhibition won the respect of photographers everywhere.

Within a year Weston withdrew from the group to live at Carmel a free, Thoreau kind of life. He took his camera into the huge ranches of southern California shooting orchards and fields, geometric patterns of growing things, monumental vistas instead of close-ups, but with as much attention paid to the forms and the composition as he had to a single pepper or to a nude figure.

In 1936 he discovered the sand dunes at Oceano with their long undulating shapes, soft rounded forms, deep black shadows, and myriads of textured sands; here he made what many consider to be his greatest pictures.

In 1937 he became the first photographer to receive a Guggenheim Fellowship. $2,000! He was free for a year —no portraits, no pictures for anyone but himself and his new wife, Charis. They bought a car, a tarpaulin to convert it into a darkroom, sleeping bags, some canned goods, and they were off for Death Valley. Most of their money went for photography. They carried twelve holders which could take twenty-four pieces of cut film for his 8-by-10-inch camera. There would be no enlarging, only contact printing. Big camera, small shutter stops, and contact printing for the finest details possible. Each piece of film he made count. Nothing was left to chance. "When I look on my ground glass before exposure I must know and see exactly how my finished print will look," Weston wrote.

He didn't wait for a picture, for the light to change, or for animals or people to come into or go out of a scene. He explains, "If I must wait an hour, I put up my camera and go on, knowing I am likely to find three subjects just as good in the same hour."

For the purposeful Westons the money went far; $2,000 took them 35,000 miles. Weston was "realizing," creating pictures in the vastness of nature through his ground glass—a profound artistic emotion instantaneously captured. The following year he saw the results; it took him all of 1938 to print his 1,500 negatives; the Guggenheim Fellowship had been extended to make this possible. His wife, Charis Wilson Weston, had kept a log. It was published along with ninety-six of his photographs two years later as *California and the West*. The photographs he took are for the most part spontaneous and direct translations of nature portraying his sensitive reactions to desert, mountain, and sea. He does not describe or record what he sees; he makes pictures of his sensuous contact with nature.

The Fellowship over, back he went to his kind of honest, unretouched portraits for which by this time he had a few customers. Often he would take the subject near his shack or on the rocks near the sea close by.

In 1941 he was commissioned to make photographic interpretations all over the nation to illustrate a new edition of Walt Whitman's *Leaves of Grass* which when published contained fifty of his photographs.

The war years he spent at his cabin in Carmel photographing with his big camera the graceful, living sculptural forms of his many cats as they entered and left

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All photographs in this chapter courtesy Edward Weston, Carmel, California.

EDWARD WESTON, Halved Cabbage. 1930.

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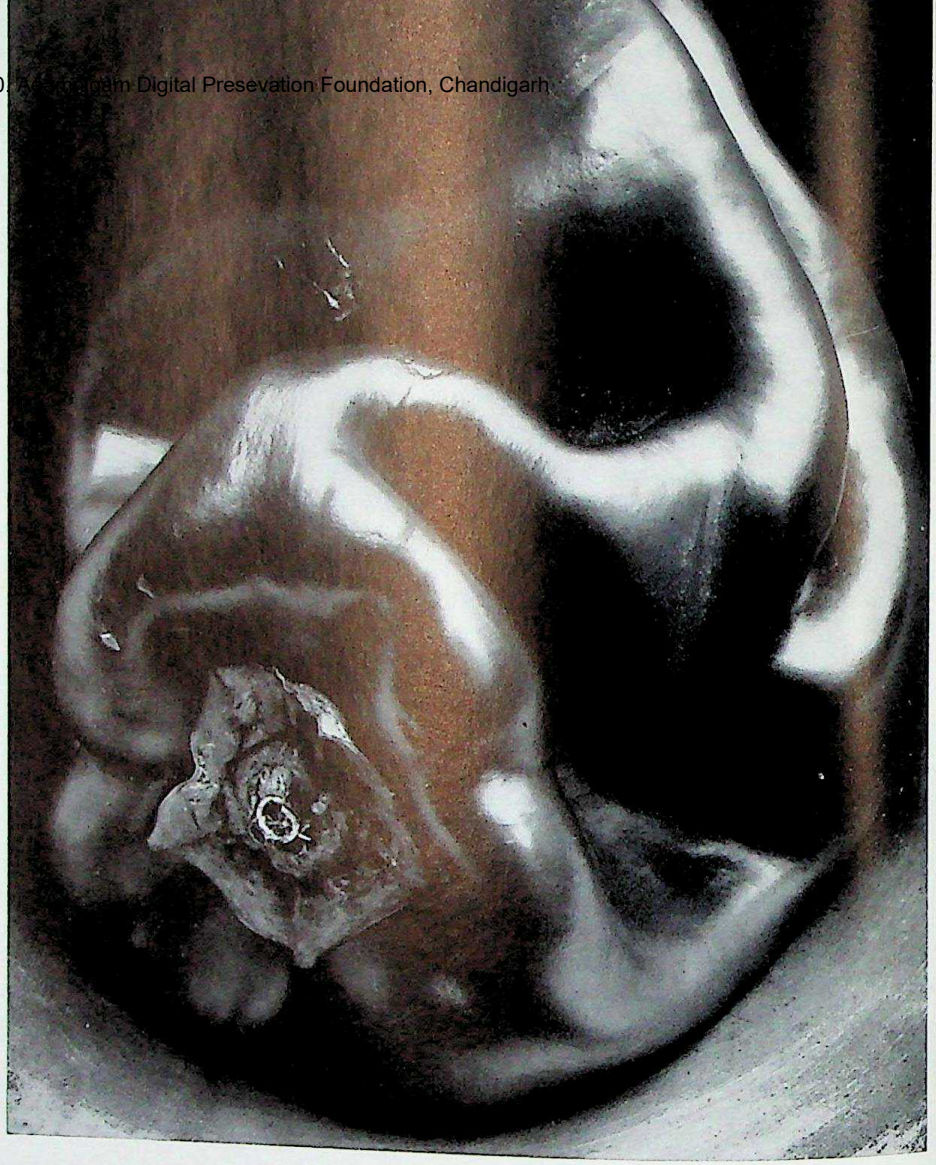

through their own little door he had cut for them. His four sons were in service. One of his favorite views, Point Lobos, was under Army jurisdiction. Restricted, the prolific photographer worked with objects, animals, people. He had once written, "Limitations need not interfere with full creative expression."

Health, never one of his problems, suddenly became his major concern when he fell ill with crippling Parkinson's disease. Unable to hold a camera in his trembling hands, the undaunted Weston directed his sons Brett and Cole to print editions of prints from his original negatives resulting in albums of his superb photographs.

On January 1, 1958 (while this chapter was being written) Edward Weston died, aged 71. As a photographer he has done much for our day, shaping the ideals and purposes of photography. His best works are profoundly spiritual interpretations of nature, photographs in his own distinct style.

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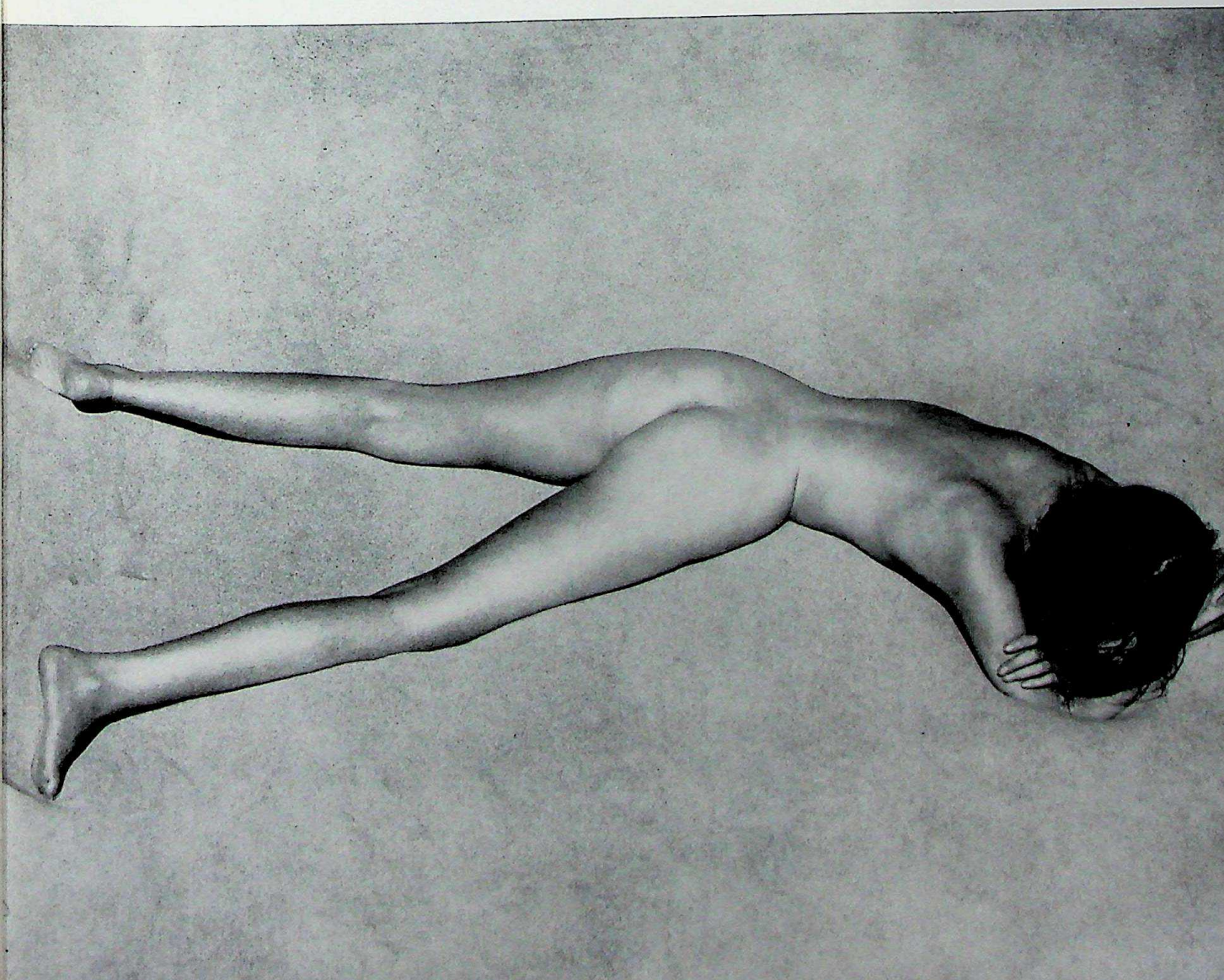
WESTON
below: Nude on Beach. *California, 1936.*
left: Pepper. *1930.*



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WESTON, *above:* Dunes. *Oceano*, 1936.
opposite page, above: Dunes. *Oceano*, 1936.
left: Rock Erosion. 1942.

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WESTON, Gulf Oil.
Port Arthur, Texas, 1941.

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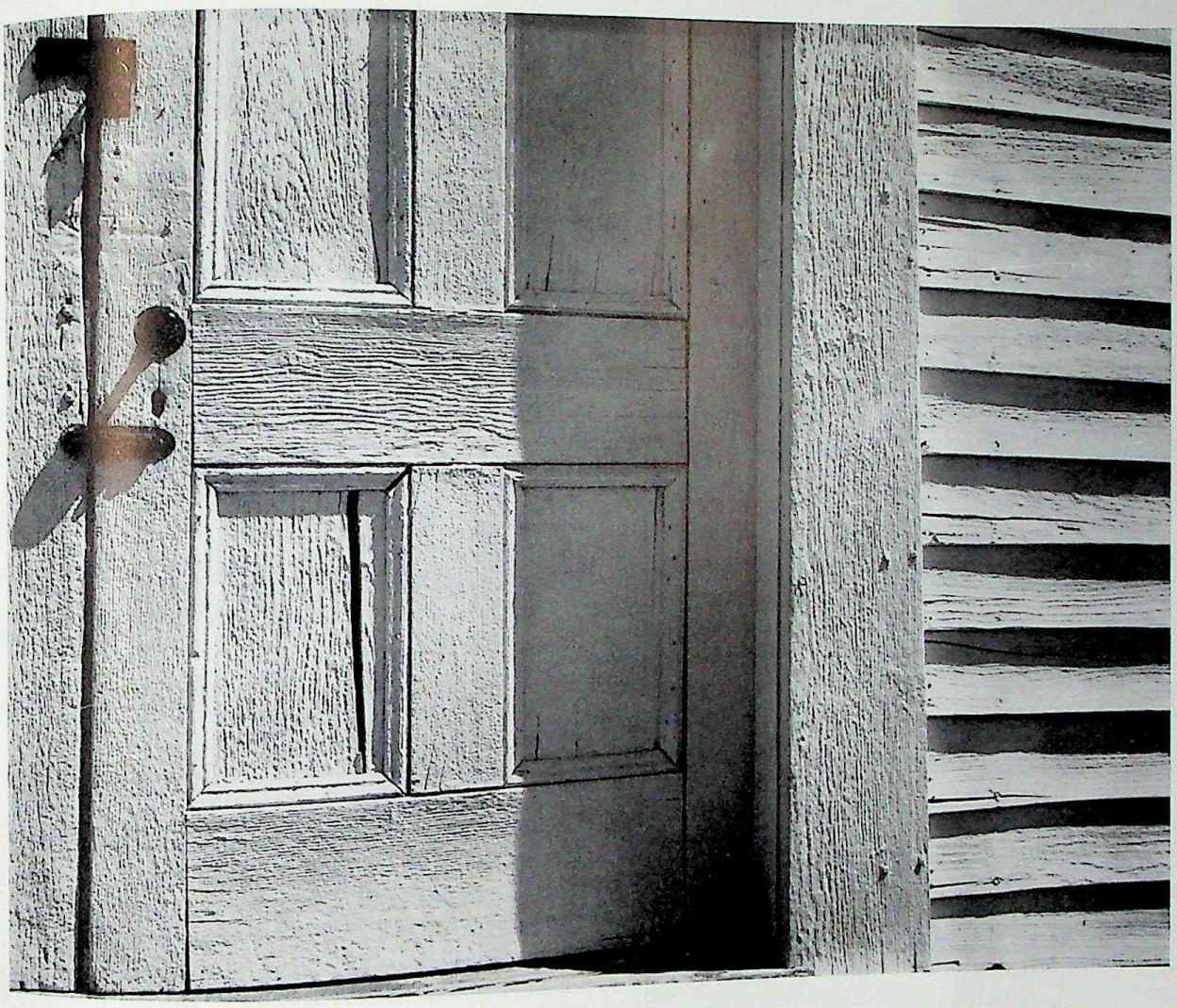

WESTON, *above:* Church Door. *Hornitos, 1940.*
left: Field of Lettuce. *Salinas, California, 1934.*

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26.

Germany and the Bauhaus—Photography for Design

IT WAS DURING THE 1920s that photography came of age, attaining essentially the depth and breadth that it shows today. The depth was American, the breadth German. Typically, the Americans pursued photography as a discipline in itself. The great American photographs are poems—crisply focused, beautifully composed, produced wholly by photographic means. Their integrity and their intensity of vision have been a contribution of the first order. Germany in the 1920s had its own representatives of such a "straight" photographic school, notably Renger-Patzsch, but her most important contribution was to extend the boundaries of photography into abstract and applied photography.

In the Bauhaus at Dessau, the great school for artists and designers and the center for basic experiment in every field of the visual arts, the camera was valued as an instrument for creative imagery. These images were used as elements in constructing designs for exhibitions, photomurals, posters, advertising, layout, and typography; they became a new photographic vocabulary used to communicate ideas. Such uses, commonplace today, were first conceived by the Bauhaus group before 1930. Since then applied photography has become firmly woven into our daily life.

The moving spirit in the Bauhaus photography was Laszlo Moholy-Nagy, born in Hungary, 1895. Moholy

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taught at the Bauhaus during the years 1923–1928. He came to the United States in 1937, and from that time until his death in 1946 was director of the New Bauhaus, Chicago, later called The Institute of Design and now a division of the Illinois Institute of Technology. Wherever he was, Moholy taught that the photographic image should be a fresh, original interpretation of visual experience. He stressed photography without regard for story or landscape, and advocated the use of mixed techniques and manipulations: distortion, enlargement, blanking out, montage, double exposure, double printing, negative effects, bird's-eye and worm's-eye views.

Moholy himself created many abstract photographs, inspired by—and in turn inspiring—abstract painting. He was among the first to create the kind of image, made without using the camera, known as the photogram: an abstract photographic print made by placing opaque objects and objects of varying degrees of transparency on a sheet of sensitized paper, exposing with a flashlight, and developing to secure a single print. He reawakened artistic interest in photomontage, often adding fanciful touches and Surrealist incongruities. He produced other startling effects through negative images and multiple overprintings, frequently employing forms taken from radiography and microscopy. Through his experiments with light and the photographic image in Germany and America, he became one of the greatest influences on modern design all over the world.

The tradition-shattering "Film und Foto" international exhibition of more than a thousand photographs was held in Stuttgart, 1929, under the sponsorship of the Deutsche Werkbund, an arts-and-crafts organization led chiefly by the Bauhaus group. This exhibition included the photograms of Moholy-Nagy, the similar "Rayographs" of Man Ray, and the new photographic visions of the Bauhaus; aerial, X-ray, news, advertising, and scientific photographs notable for form and movement; and the "straight" photographs of an American group including Edward and Brett Weston, Edward Steichen, Charles Sheeler, Imogen Cunningham, and Berenice Abbott, and of a similar German group. The sharply defined and classically composed photographs of the Americans created a profound impression. The aesthetic beliefs held by this group were written for the official catalogue by Edward Weston, and in the main coincided with those of Renger-Patzsch and exponents of the New Realism (*Neue Sachlichkeit*) who strove not only for crystal-sharp, literally accurate photographs but also for an intensified realism that had the feeling of life.

Albert Renger-Patzsch had, in 1928, published *Die Welt Ist Schön* (*The World Is Beautiful*), containing one hundred of his own photographs. These were straightforward and unretouched pictures of nature produced by purely photographic means. The poetic realism of these exaggerated close-up views of objects of our common perception strongly influenced European readers and prepared the way for the great reception accorded the Weston group at "Film und Foto."

The scope of modern photography was further extended by "miniature" photography. The 35-millimeter Leica camera, invented by Oscar Barnack in 1914 and placed on the market in Germany in 1925, brought new flexibility to pioneering workers. It brought changes to all contemporary photography and dealt a telling blow to

ALBERT RENGER-PATZSCH, Icicles at a Waterfall. 1928.
Courtesy the photographer, Westphalia, Germany.

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the pictorial school by enabling photographers to see commonplace everyday objects in new and bolder perspectives, and it gave them a new freedom in treating shapes and forms in space. The miniature camera especially changed the practice of photojournalism. Behind-the-scene glimpses of internationally famous political personalities at League of Nations conferences in the late 1920s were taken by the brilliant multilingual lawyer, Dr. Erich Salomon, one of the first to use a miniature camera for news pictures. It was said of him, "there are just three things necessary for a League of Nations conference, a few Foreign Secretaries, a table and Dr. Erich Salomon." Magazine and press photographers have since followed his unposed candid-camera style as an ideal. (He was to die in the gas chambers of Auschwitz.)

Dr. Paul Wolff, another early Leica enthusiast, taught his students how to select the most effective angle, wait for the precise instant, stop movement at its peak, and see and compose simultaneously. His principles of miniature photography—although without his outmoded aesthetic intention of achieving a soft, salon-type photograph—are still adhered to by the best of photographers.

The great photographers in Germany during the 1920s were men of rare ability and intellectual breadth who taught that a heightened perception of form and beauty could be developed consciously through camera vision. They ardently advocated that photographers as well as painters and designers be allowed the freedom to experiment in order to establish new identities for their art.

Under Hitler, creative development in art and photography was interrupted in Germany. Neither experimentation nor free expression was permitted; and the leading teachers and practitioners in all branches of the arts left the country. When the Nazis destroyed the great publishing house of Ullstein with its three picture magazines, for which men like Dr. Erich Salomon, Alfred Eisenstaedt, Philippe Halsman, and Fritz Goro took celebrated news pictures, brilliant photographers and editors went to France, England, and America to found magazines that have since become world-renowned. Almost all of the important Bauhaus personalities—Walter Gropius, Mies van der Rohe, Herbert Bayer, Lyonel Feininger, and others—eventually came to the United States, where they continue to exert a powerful influence on the visual arts.

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RENGER-PATZSCH, Potter's Hands. 1929. *Courtesy the photographer.*

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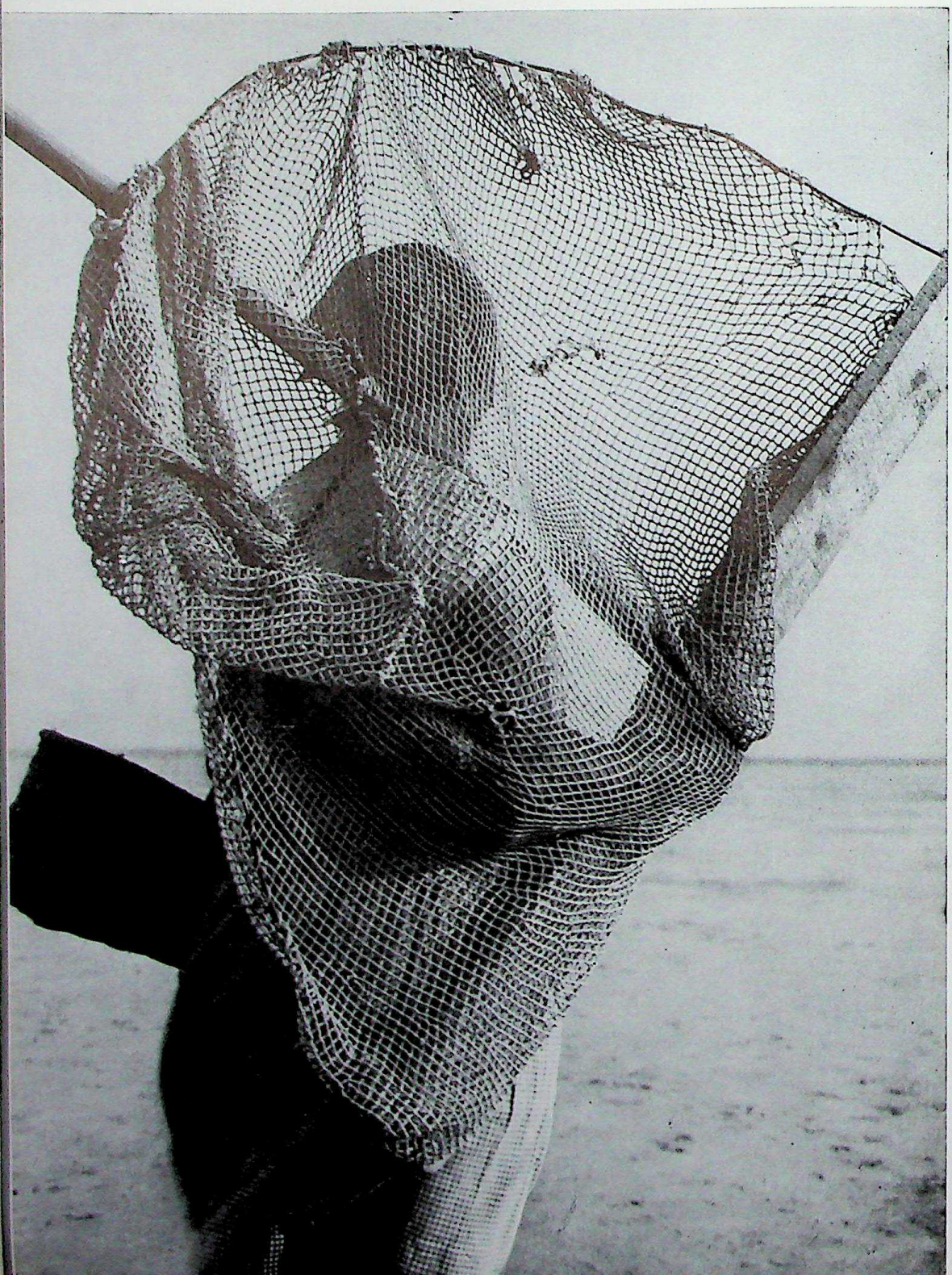

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RENGER-PATZSCH, *above:* Thistle Blossom. 1929.
left: Crabfisher. 1929. *Courtesy the photographer.*

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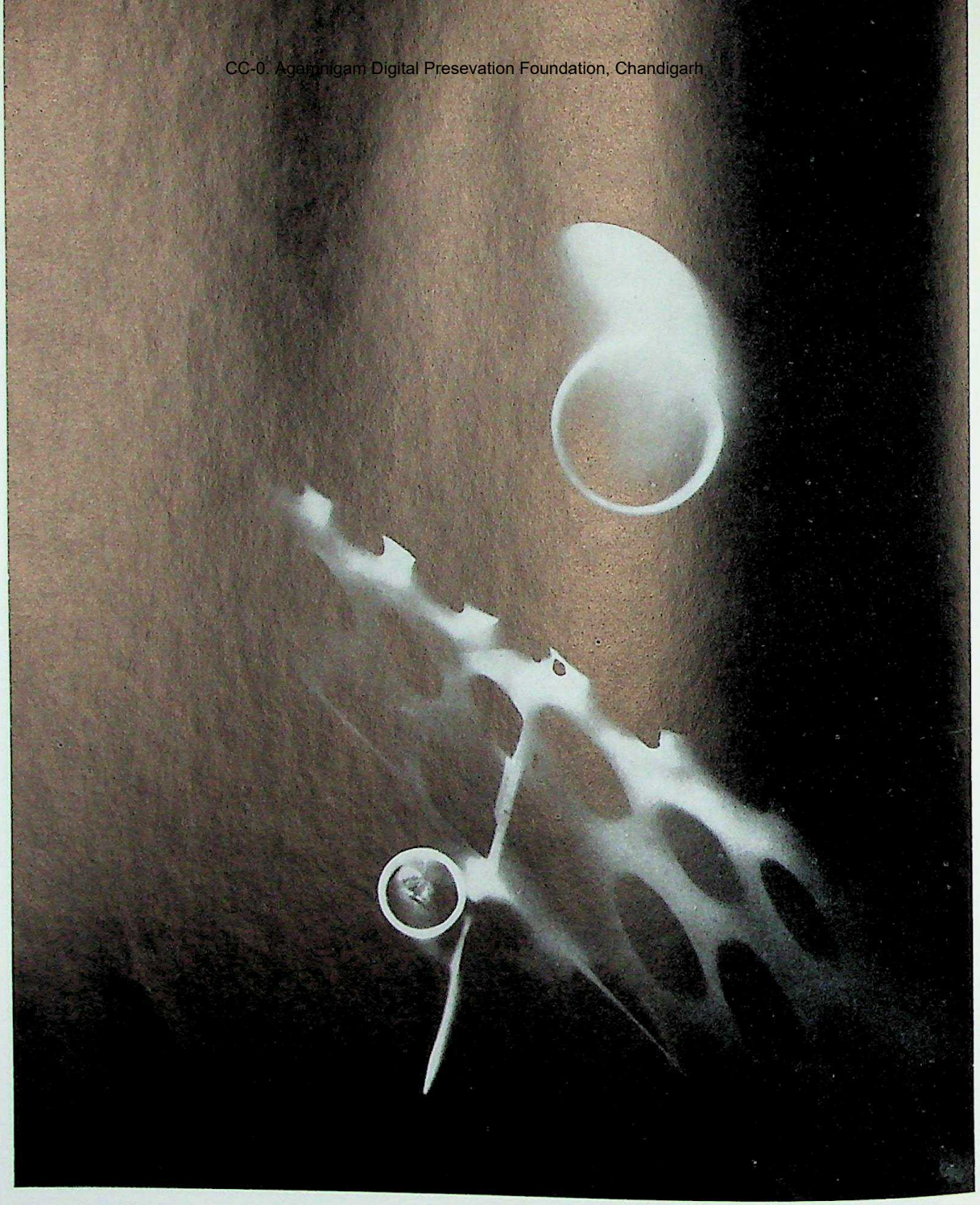

LASZLO MOHOLY-NAGY, *above:* Photogram. 1926. *Courtesy George Eastman House. right:* Nude. *Negative print,* 1929. *Courtesy Museum of Modern Art, New York.*

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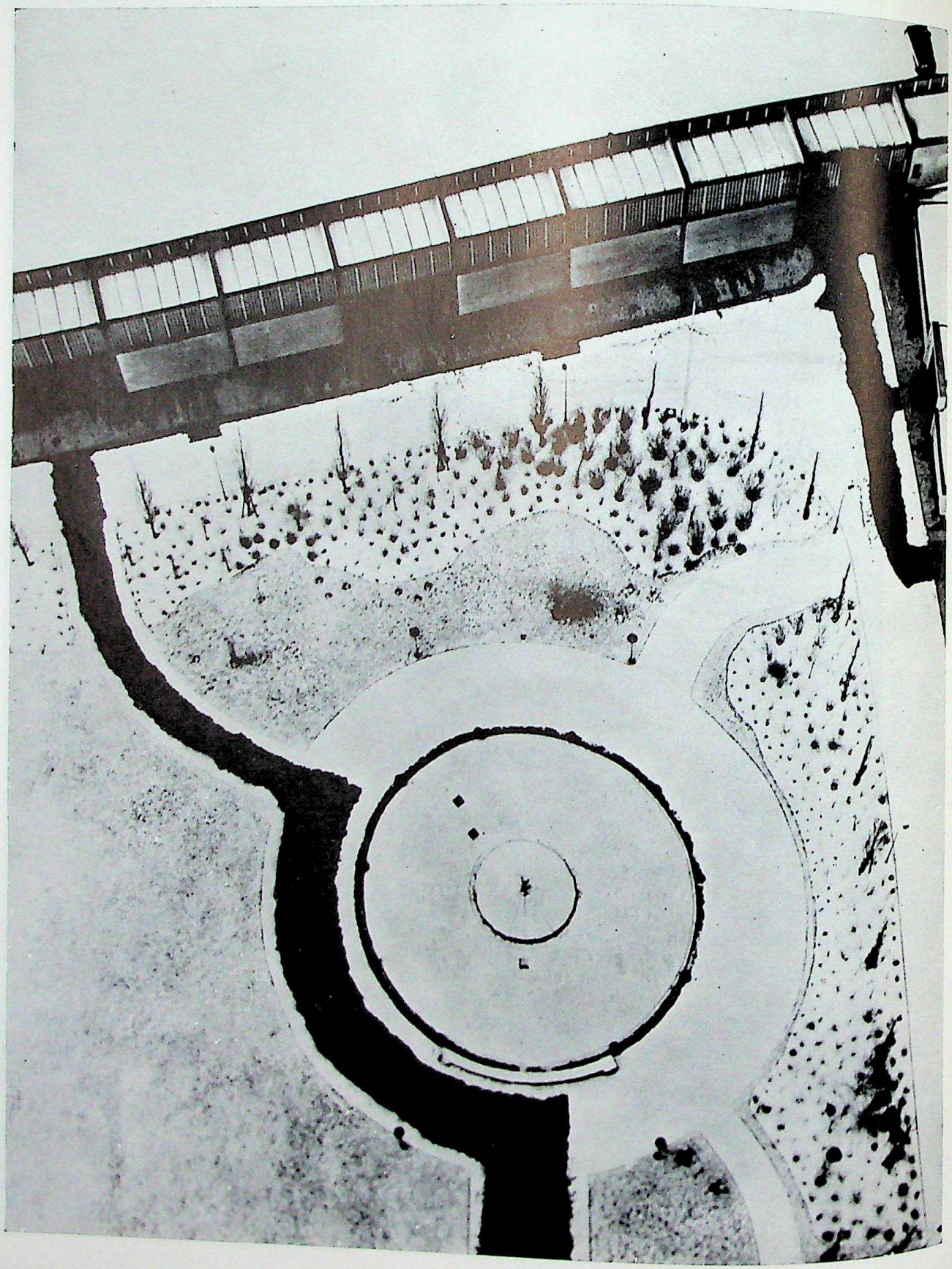

MOHOLY-NAGY, *above:* Fishbones. *1930. Courtesy George Eastman House.*
left: From the Radio Tower. *Berlin, 1928. Courtesy Museum of Modern Art.*

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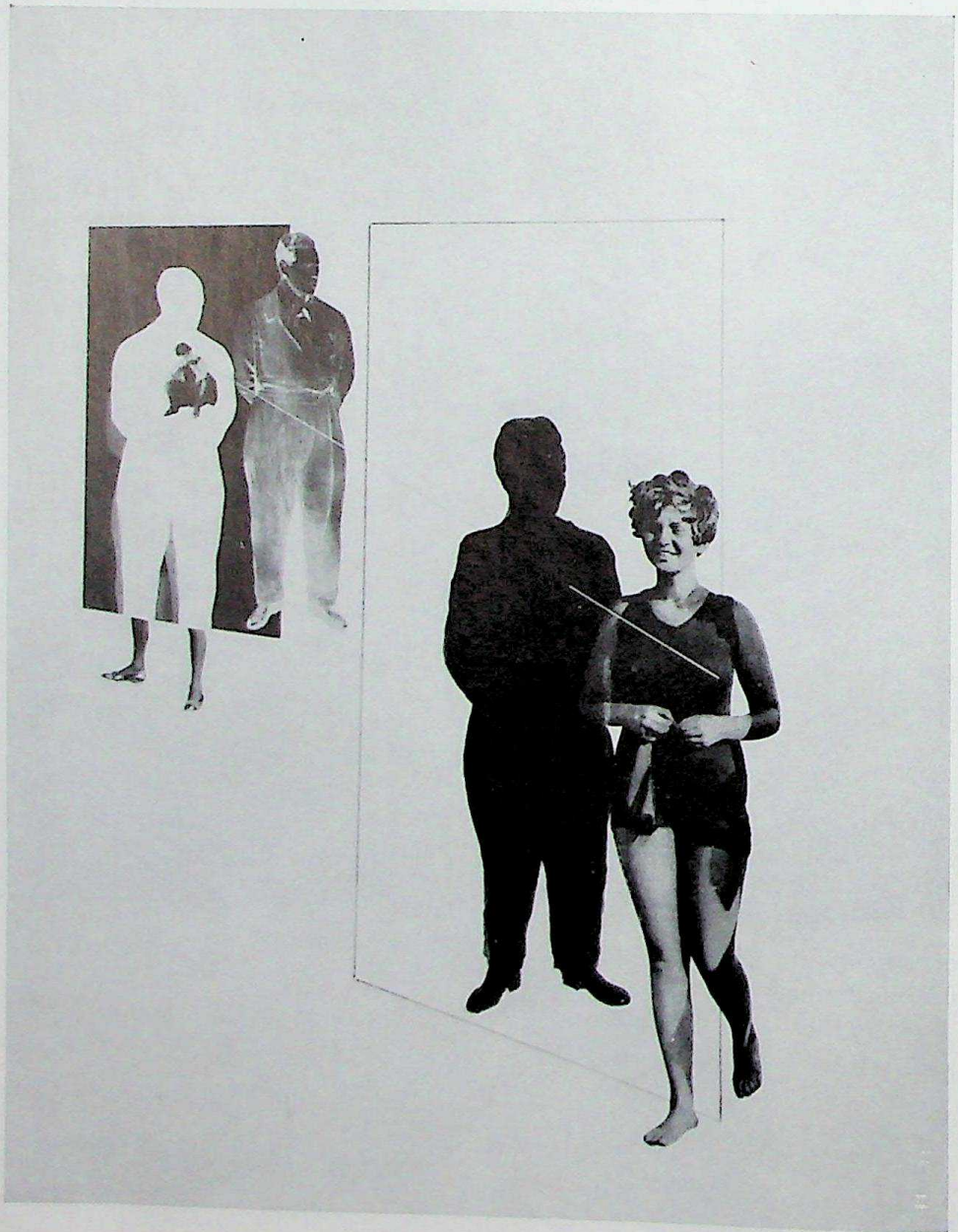
MOHOLY-NAGY, *below:* Jealousy. *Montage*, 1930.
right: Stairway in the Bexhill Seaside Pavilion. 1936.
Both, courtesy George Eastman House.



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DR. ERICH SALOMON

above: Stanley Baldwin and Prime Minister Ramsay MacDonald During a Press Conference. *London, September, 1931. One of the first informal photographs taken at the Foreign Office.*
right: King Fuad of Egypt and Entourage in Berlin State Opera Box of President Hindenburg. *1930. Both, courtesy Peter Hunter, Amsterdam.*

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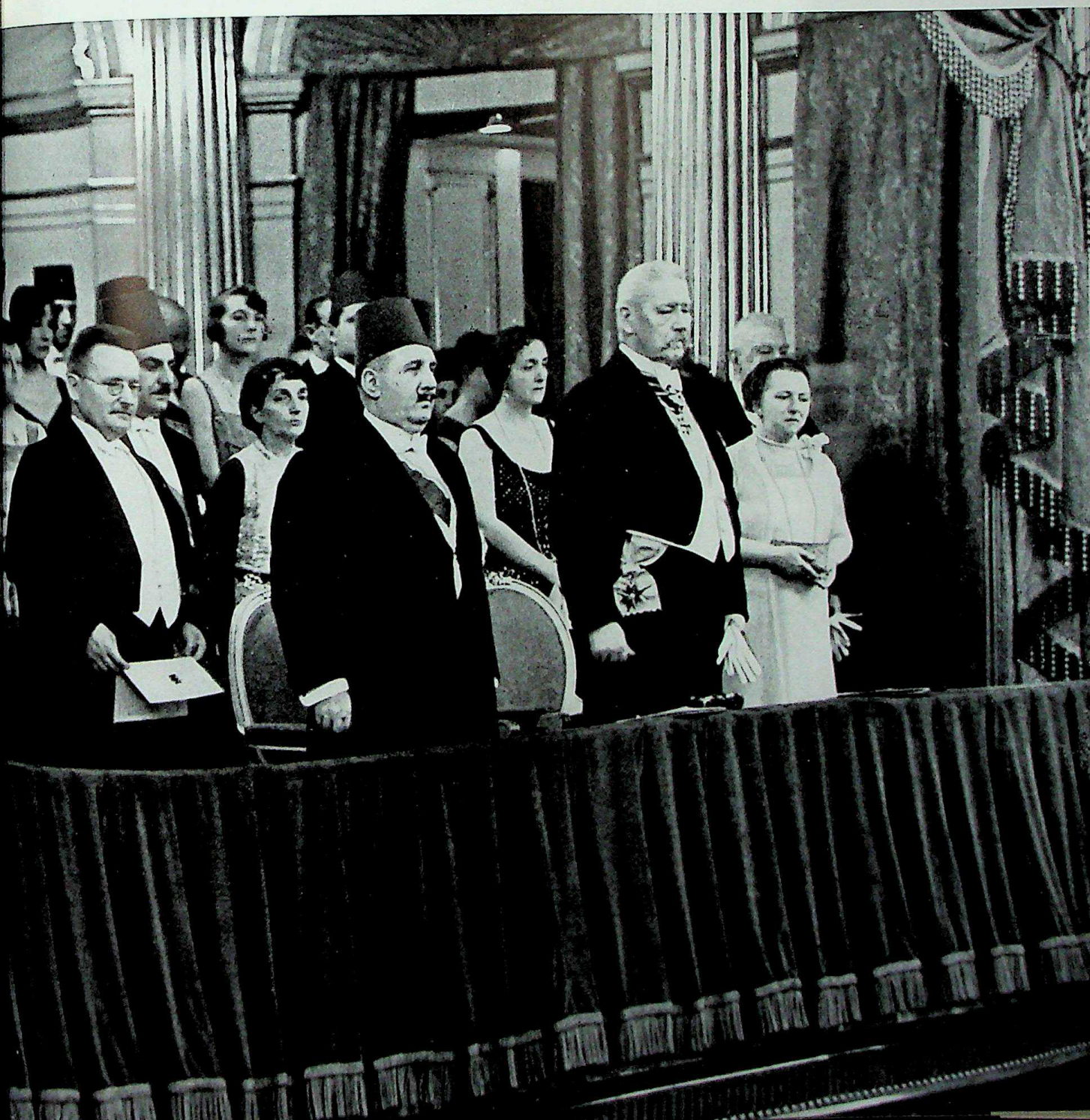

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SALOMON, *above:* It's That Salomon Again! *Paris, 1931. Aristide Briand points to the photographer who, he had bet, would get into a secret session of the French Foreign Office. right:* Reception in Berlin. *1931. British Prime Minister Ramsay MacDonald explains the theory of relativity to Albert Einstein. Einstein expounds on his hopes for the peace conference. Both, courtesy Peter Hunter, Amsterdam.*

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27.

Roy Stryker—Documentaries for Government and Industry

DURING THE DEPRESSION Roy E. Stryker, an inspired teacher, used photographs as visual aids for teaching the entire nation something about the somber, seamy existence endured by Americans residing in rural slums. In 1935, when Professor Rexford Tugwell was head of the Resettlement Administration (R.A.), he called on his former student, Roy Stryker, to head a new photography project intended for the Farm Security Administration (F.S.A.), the alphabetical successor to R.A. Mr. Stryker left the sheltered academic life of Columbia University, where he had been teaching, for the three-ring circus of politicians, idealists, and brain-trusters then starring in the marble tents of Washington, D.C.

Stryker's objective was to investigate and record the human problems which beset millions of people living on impoverished, drought-stricken land. He turned a spotlight on the conditions of the lowest third, that third which President Roosevelt had referred to as "ill housed, ill clothed and ill fed."

F.S.A. became a vigorous factor in presenting the truth, creating indignation at the plight of the migrant worker, and propagandizing for a break in the destructive grip in which economics and the elements held the marginal farmer. In the early days Roy Stryker sacrificed quality in his desire to secure accurate photographs; too many pictures in F.S.A. files are mere documents with as

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much feeling for photographic beauty as a photostat. These are crowded with detail, insensitive, and harsh.

Fortunately, the sensitivity of the photographers whom Stryker hired, combined with his own sympathy for the farmer and his keen interest in providing effective pictures for the nation's press, produced in time a series of truly remarkable documentary photographs. These are dramatically organized around a central idea, they are penetrating interpretations of how people fared on the land. Stryker permitted no posed shots, no tricky angles, or darkroom manipulations. He talked with his photographers—six was the most F.S.A. employed at any time—suggested books to them on the geography, history, and economics of the proposed story. Only after thorough indoctrination did they go out to take their pictures.

Some of today's best known names in documentary and journalistic photography joined his staff—Ben Shahn (now more famous as a painter), Edwin Rosskam, Walker Evans, Dorothea Lange, Arthur Rothstein, Carl Mydans, Marjorie Collins, Russell Lee, John Vachon, Gordon Roger Parks, Marion Post Wolcott, and Jack Delano. They took a composite picture of the country that was a revelation to the nation of how the "submerged third" existed.

Stryker's photographers had their troubles. Rothstein photographed a cow's skull against scrub grass where he had found it; he then moved it several feet to photograph it on sun-parched soil that made for a better background. Both prints were sent to the papers. One editor spotted the discrepancy and Stryker was accused of deliberately making distorted propaganda pictures; the skull became the celebrated exposé of an election year, 1936. Stryker admitted that the photographer had moved the skull and said to an investigating committee, "What the hell, the point of the picture is that there's a drought. Cattle are dying; and don't tell me that the photographer got out of the drought area by moving 10 feet." John Vachon was pitchforked by an irascible, New Deal-hating farmer, and Jack Delano was jailed by a security-minded policeman in Pennsylvania who stopped him from photographing a steel mill.

Some F.S.A. photographs remain great pictures today, symbols of that terrible time in America; they become for today harbingers of what may beset the nation again if the people are not wary. Arthur Rothstein's photograph of an Oklahoma farmer and his children fighting their way through a gritty duststorm never fails to elicit an emotional response, nor does Walker Evans's child's grave, a picture of a saucer burial taken in Alabama, or Jack Delano's Negro family in a rural house in Georgia. John Steinbeck credits Dorothea Lange's studies of the Okies and other migrants with inspiring his classic novel *Grapes of Wrath*.

It was Stryker's desire to secure a record of social significance, a vital picture of the hectic, harrowing days which the nation was enduring. Reproductions were used not only in the nation's newspapers and magazines, but also to illustrate such books as *Forty Acres and Steel Mules*, by Herman Nixon, *Washington Nerve Center*, by Edwin Rosskam, and *Land of the Free*, by Archibald MacLeish, who wrote in his preface, "The original purpose had been to write some sort of text to which these photographs might serve as commentary. But so great was the stubborn inward livingness of these vivid American documents that the result was a reversal of that plan."

American Photographs by Walker Evans, published by the Museum of Modern Art, included many pictures Evans took for the F.S.A. Richard Wright collaborated with Edwin Rosskam on *12 Million Black Voices*.

Stryker did not overlook the positive facets of America. He sought for a full-rounded picture, and said to his photographers, "Do not forsake the country for a one-sided picture of its poor in rural slums." A representative of the German Embassy looking for photographs of "typical" Americans intended for the Nazi press was shown by Stryker only photographs of prosperous farms and full employment in industry.

In the eight years of the existence of F.S.A., more than 200,000 photographs entered F.S.A. files, ranging in subject matter from courthouses, crops, and culture to churches, criminals, and farm workers (all now in the Library of Congress). Roy Stryker inspired the photographers "to give their fraction of a second's exposure to the integrity of truth." He did not insist on a picture of squalor, of sickly, impoverished people. What he asked for was a document as opposed to the pictorial, romantic, false, or smug. He wanted a direct, honest record of a particular society and its environment, with an informative rather than a fanciful approach.

Stryker and F.S.A. went to the Office of War Information soon after the war started. Stryker recommended unsuccessfully that his realistic procedure in photography be applied to the war effort. The dull pictures required of him and his crew were too confining; he soon left to take the opportunity offered him by Standard Oil of New Jersey. He was to organize for Standard Oil a library of documentary photographs recording the essential role of oil in the life of America. It was to be a free picture file available to Standard Oil's house organ *The Lamp*

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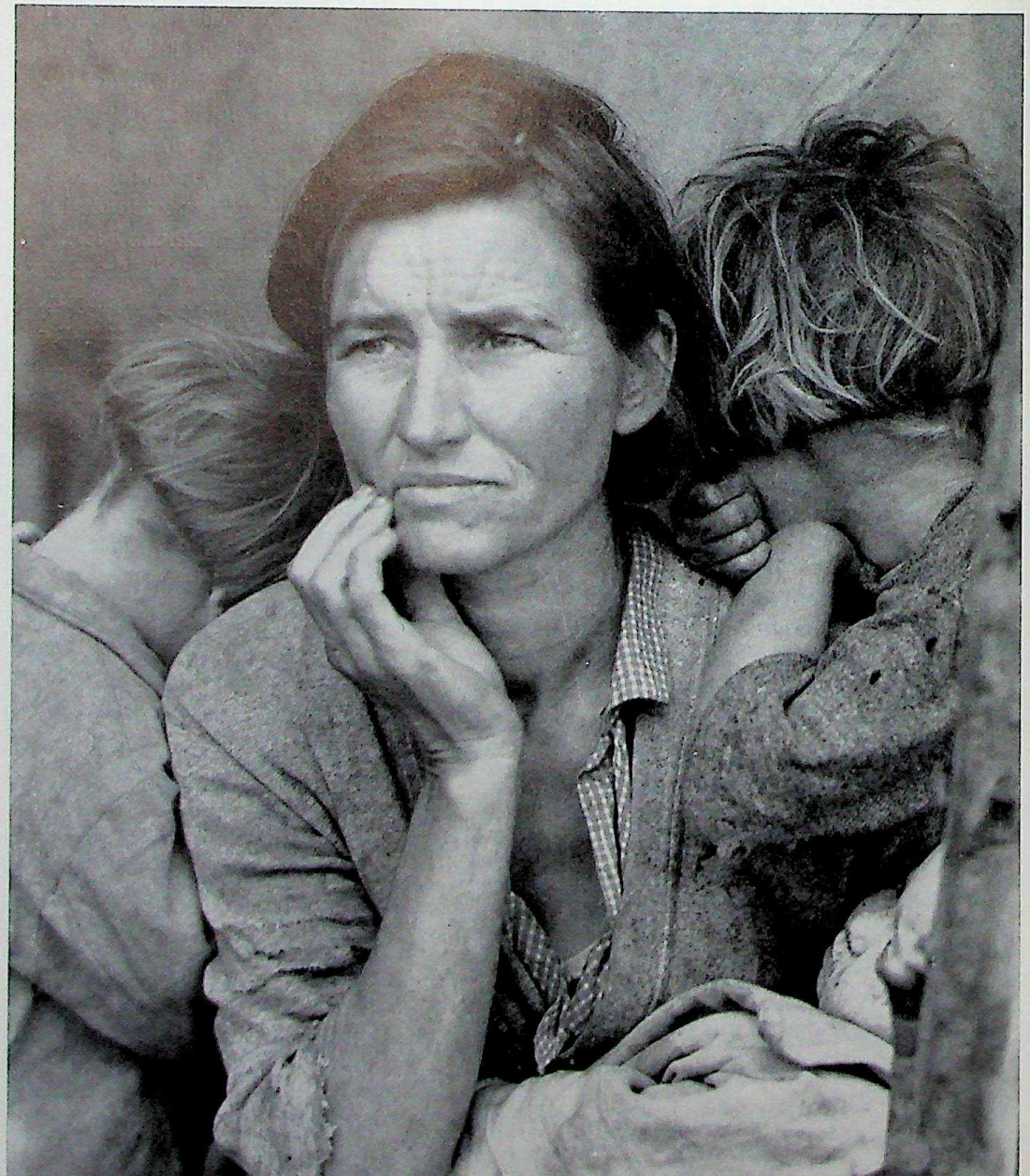
and to schools, libraries, publishers, editors—all for a courtesy credit line.

Stryker used the same method that he had used at F.S.A.; his work for Standard Oil became an extension of the pioneering program that he had developed for the government. He hired some of the best photographers who had worked for him on F.S.A. and sent them to Standard Oil installations all over the world, from the hot sands of the Persian Gulf to the permafrost of the Arctic Circle. The resultant photographs were of great technical efficacy and dramatic artistry, and again clearly revealed men's relation to their environment. A miserable climate, a lonely outpost, a man's relation to his home, his work, and his fellow men—every aspect of the oil industry and its operation was recorded.

Harold Corsini learned all he could in New York about weather conditions, geography, Eskimo mores and Eskimo history in anticipation of a ten-week stay in the far Northwest territory of Canada—Stryker always seeks resourcefulness in his photographers. Edwin Rosskam and his wife, Louise, portrayed the immense refineries in Louisiana with insight and artistry, purposefully selecting parts of pipes, tubes, tanks, and towers to capture moving compositions. John Vachon took a superb pic-



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above: ARTHUR ROTHSTEIN, Farmer and Sons Walking in Dust Storm. *Cimarron, Oklahoma, 1936.*
left: DOROTHEA LANGE, California. *1936.*

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All photographs in this section courtesy the Library of Congress, Farm Security Administration Collection, Washington, D. C.

below: RUSSELL LEE, Southeast Missouri Farm, Son of Sharecropper Combing Hair. *May, 1938.*
right: BEN SHAHN, Rehabilitation of Clients, F.S.A. *October, 1935.*

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ture of derricks rising out of the sea in Venezuela, and Todd Webb's picture of Pittsburgh spells a city's surging power.

There was now better equipment, more time for preliminary study, and better pay for the cameramen. Stryker enthusiastically directed them in securing a comprehensive picture of the tremendous oil industry that everyone could understand. Their pictures of the vital role which oil plays in the economy record reality with a truth that is far removed from the one-sided muckraking of Ida Tarbell a generation earlier.

Public-relations purposes financed the program of positive photography for Standard Oil, and does so now for the steel industry (Stryker is presently head of Jones and Laughlin Steel Company's photo file), but the truthful, historic penetration in depth is the unique personal contribution made by Roy E. Stryker to photography in industry, as to photography in government.

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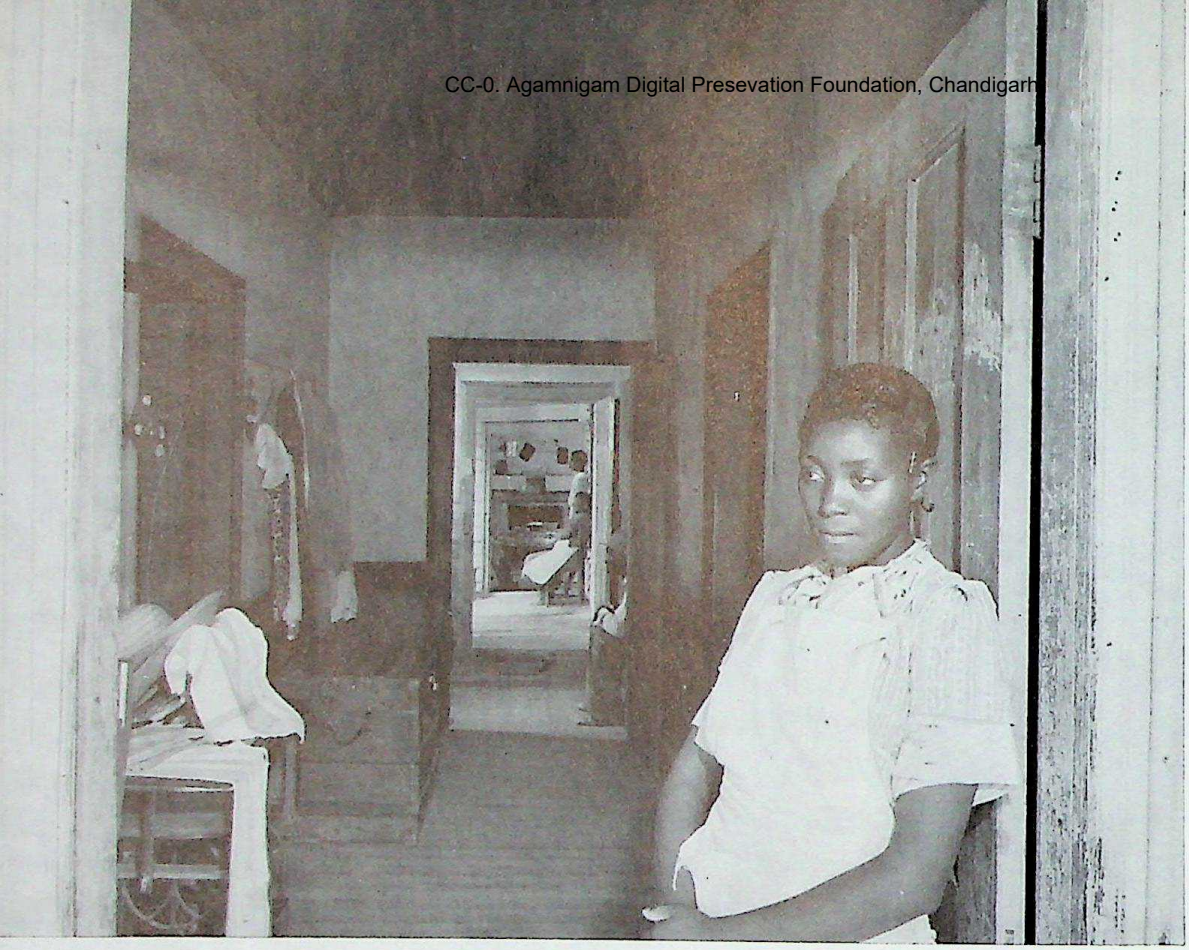

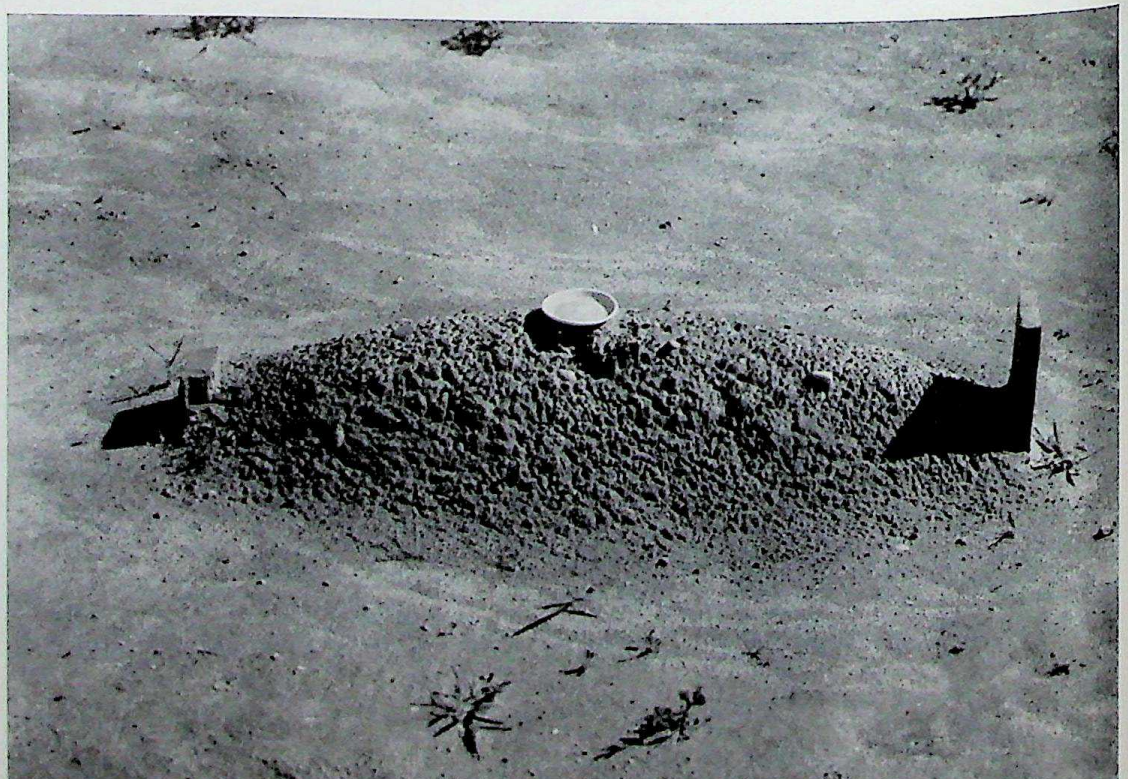

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below: WALKER EVANS, Graveyard in Easton, Pennsylvania. 1936.
left: JACK DELANO, Interior of Rural House. *Greene County, Georgia*, 1941.
opposite page, below: WALKER EVANS, Child's Grave. *Alabama*, 1936.

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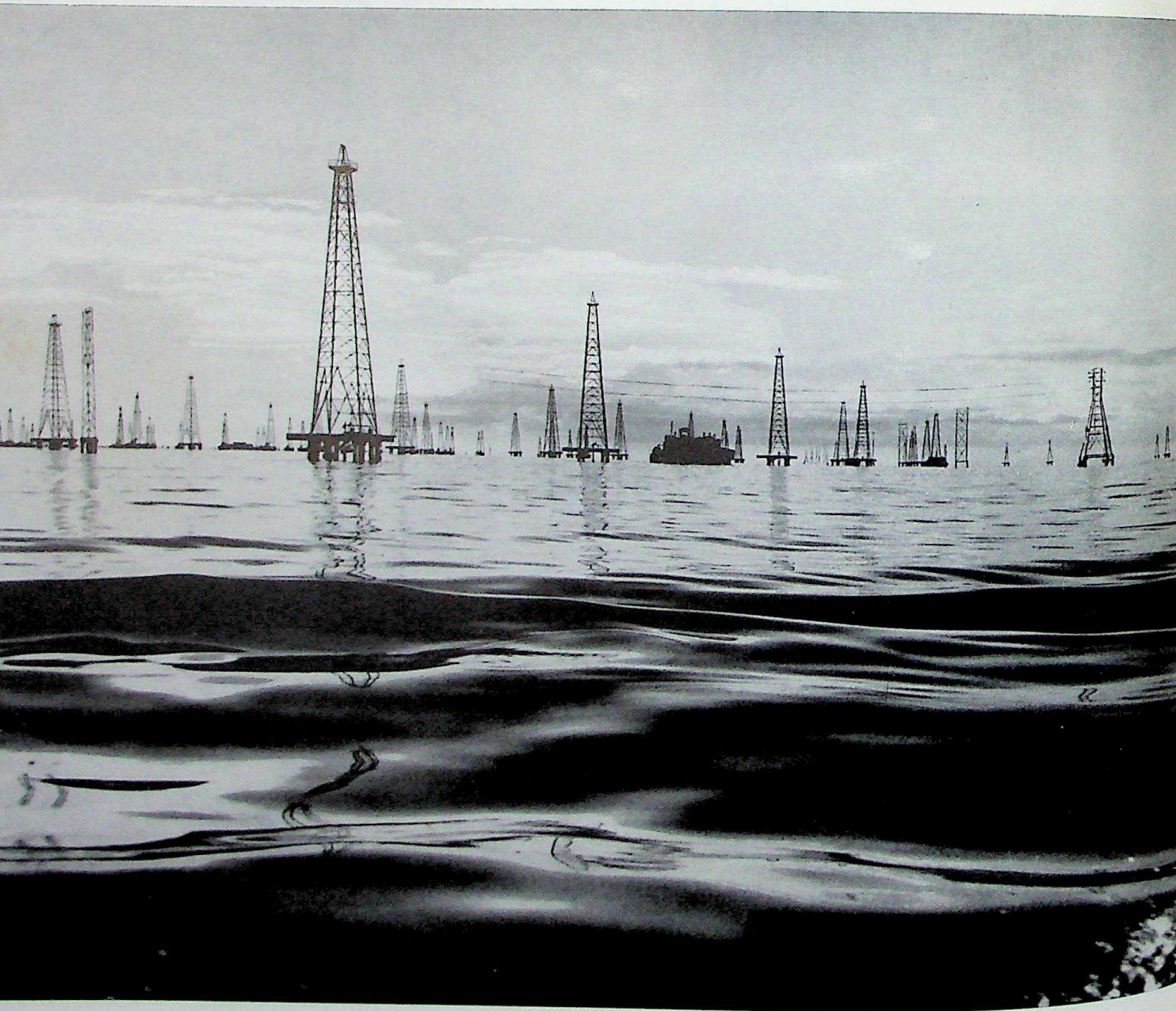
All photographs in this section courtesy the Standard Oil Company of New Jersey.



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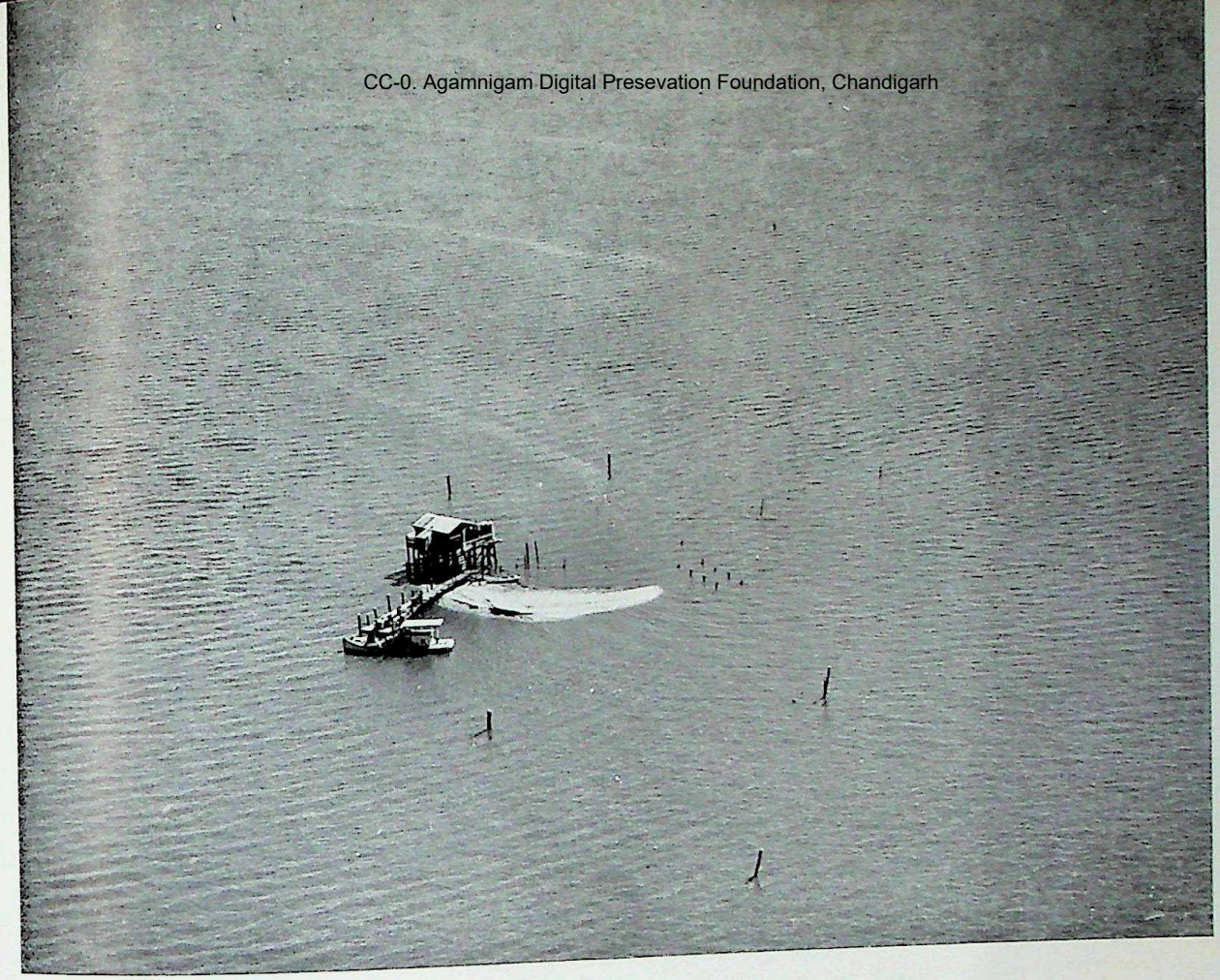

above: CHARLES ROTKIN, Reef in Barataria Bay, South of New Orleans. 1948.
left: JOHN VACHON, Western Venezuela—Tia Juana Field. 1944.

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above: HAROLD CORSINI, Refinery. *Baytown, Texas, 1946.*
left: EDWIN AND LOUISE ROSSKAM, Oil Train on Prairie. *Cut Bank, Montana, 1944.*

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TODD WEBB
Pittsburgh, Pennsylvania.
1948.

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28.

Ansel Adams: Interpreter of Nature

In a time when so much in modern art escapes the understanding of the great majority of humanity, the incredibly skillful photographs of Ansel Adams exert a tremendous appeal whenever they are exhibited in the nation's museums.

Adams's best photographs represent the aspirations held by innumerable pictorial cameramen of all the world, amateur and professional. Ansel Adams's distinction is in the sensitivity and poetry that he introduces into his photographs and in the control that he maintains over his medium through his formidable scientific knowledge. He is the founder of a complex "zone system of planned photography." This system separates tonal values of subjects according to "zones" or levels and, after readings are taken with a light meter, provides the photographer with step-by-step guidance in exposure, development, and printing, to achieve a predetermined structure of tones.

Adams, in addition, is ever alert to arrangements in nature that make for dramatic masses, counterbalance of forms, and subtle tones, as well as for stability of design to control the over-all image. In his best photographs each element is considered in relation to the whole picture, which shows his instantaneous interpretation of the ever-changing, accidental play of light on landscape.

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Several of his finest photographs go far beyond the purely visual and the technically perfect. These are idealizations of nature that border on the profoundly spiritual. Were it not for his inherent deep feeling for the exalted landscape of the West, feeling that he instills into his works, his photographs would be merely the best obtainable in picture postcards. It is the sensitive, interpretive seeing of Ansel Adams, who constructs his photographs as pictorial architecture, that carries him far beyond photographers of ordinary vision. Copyists who attempt to follow him inevitably secure only superficial, overdramatized imitations of his work, and miss the vision of the mysterious, living forces in nature that inspires Adams in all seasons of the year and at all times of day and night to compose pictures of specific landscapes and to transpose what he sees to sensitized plates at the peak moments of his perception.

To the geometry of composition Adams supplies mathematical patterns from music (he was a gifted pianist who gave up the concert stage for the camera in 1930 when he was twenty-eight years old). He composes photographs with a musical rationalism and repetition: slight variations on a theme in photography. There is a similarity in his compositions: foreground, mountain peaks, and sky, a harmonious balance of dark, light, and lighter shades of gray, with only rarely a deep impenetrable black. Adams is always mindful of perspective and horizon, of patterns in horizontal and diagonal lines, of strong verticals and repeated triangular forms.

Recognition of the object is always important in Ansel Adams's work organized though it is in decorative patterns with countless details. Abstraction and transformation of the object, the core of strikingness and power in modern art and photography, are alien to Adams's purpose. Adams's later photographs conceived in all-over textures and patterns of leaves, ferns, trees, stones, and boards can be compared to musical sonatas and fugues. They are less complex in composition than his earlier elaborate pictures of imposing mountainous landscapes inspired by soaring symphonies.

His deep response to nature is Ansel Adams's poetic lever, for without it he would be bogged down in his scientific system of photography. What enables artists like Seurat in the last century, with his belief that anyone could become an artist who learned his "Pointillist" science of applying color, and like Ansel Adams in our day, with his zone system of composition planning, to reach creative heights is their power to rise above their own self-imposed, confining formulas.

Adams has an unappeasable appetite for the grandeur of the Rockies; a nineteenth-century Romantic poet's attachment, a soul-searching affinity for nature's most impressive manifestations. Themes and conceptions that could be interpreted perhaps more readily in abstract music he attempts to interpret pictorially. A panorama that he has seen immediately in its entirety he feels to require a prolonged subsequent reading for the yielding of its full importance, like the sustained listening to a symphony. As the camera catches the landscape with its single eye, he freezes movement, relating diversified objects, textures, and tones with an almost musical point and counterpoint, and compressing deep space into a flat sheet of film, usually 8 by 10 inches. About his work Adams wrote, "Before exposure of the negative, I must visualize the final print. My creative concept is based on my response to the subject before me in space, and on the aggregate of emotional and intellectual experience back of me in time."

If communication were the only criterion in art, the beautiful, recognizable, and evocative photographs of Ansel Adams would be considered the most significant creations of our time. The enchanting, aesthetic power of Adams's finest photographs remains effective despite repeated viewing. Each photograph is a perfect rendition, to be seen as often as one would listen to a recording of a virtuoso musical performance.

To enable a wider audience to see his pictures than that which usually attends his exhibitions, Adams has developed a means of reproducing his prints in halftone engravings, using special inks, reminiscent of the quality demanded by Stieglitz and Emerson a generation ago. Nineteen books and extravagantly produced portfolios of his photographs have been published to date—*John Muir Trail, Four Seasons in Yosemite, My Camera in the National Parks,* and several "how to do it" books, for the most part excellent technical treatises illustrated with fine halftone reproductions of his own photographs.

In 1944 he made the photographs, wrote the text, and, at his own expense, prepared an exhibition of documentary pictures of the Japanese-Americans evacuated from the West Coast to the flat desert expanse of Manzanar Valley. The six-foot photographs, which were exhibited at New York's Museum of Modern Art, became a rallying force for all who, in the name of justice, wished to help loyal Japanese-Americans to regain their rightful positions as peaceful citizens.

Several years earlier Adams had been appointed photomuralist for the U.S. Department of Interior, and, in the same year, had assisted Beaumont Newhall to found at the Museum of Modern Art the first department de-

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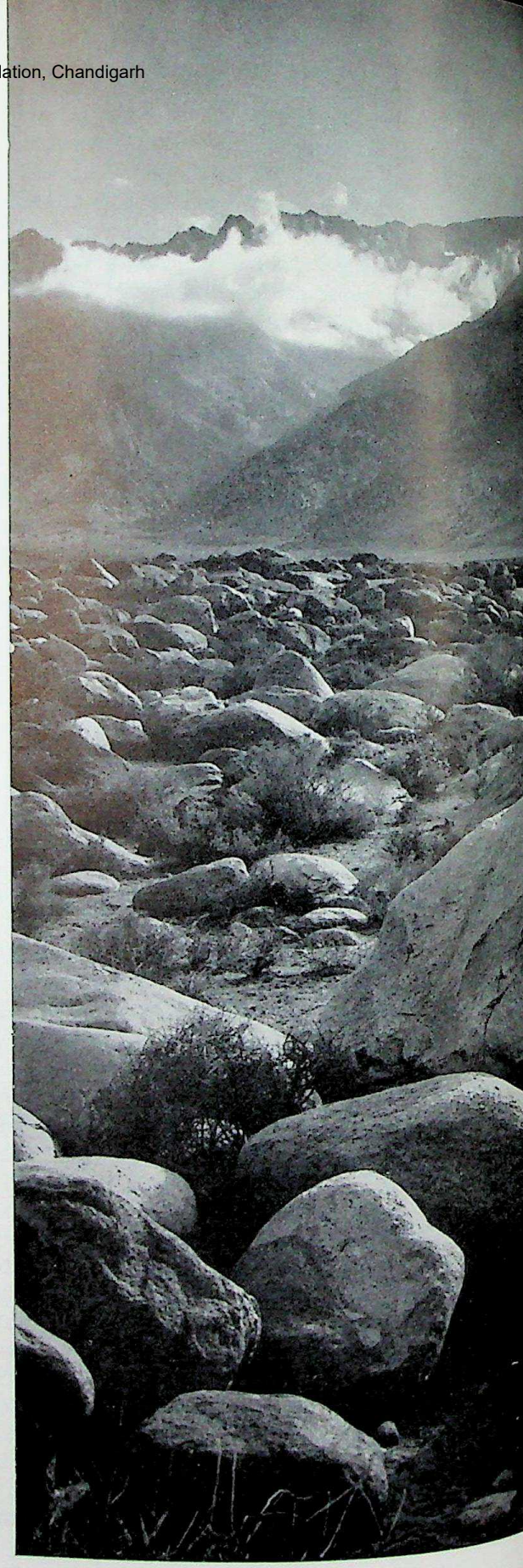
voted to photography as a fine art. During World War II he served as a consultant in photography to the Armed Services.

At the war's end Adams started classes at the California School of Fine Arts in San Francisco for advanced amateurs and professionals, teaching his own scientific system of unmanipulated straight photography and his own aesthetic philosophy. This credo was based on thoughts of Stieglitz, who first showed Ansel's photographs in 1936, and of Edward Weston, who was an influence in the early days of their association in the group known as f.64.

Grants from the Guggenheim Memorial Foundation in 1946 and in 1948 permitted him to photograph the national parks and monuments in Hawaii, Alaska, and all over the United States. Today, with his teaching, he operates studios in San Francisco and in Yosemite and takes assignments from national magazines—*Life, Time, Fortune, Arizona Highways*, etc.—if the work appeals to him. Industrial firms have commissioned him to photograph and produce portfolios of considerable beauty and prestige. A series of his photographs with text by Nancy Newhall were issued as impressive pamphlets on Death Valley and the Mission of San Xavier.

A skilled musician, an erudite naturalist, a gifted writer and teacher, and an exuberant, warm personality, Ansel Adams willingly embraces the term "photographer" as belonging to a noble profession. This profession, he once wrote, "is deserving of attention and respect equal to that accorded painting, literature, music and architecture."

All photographs in this chapter courtesy Ansel Adams, San Francisco, unless otherwise noted.



ANSEL ADAMS, Mount Williamson, from Manzanar, California. 1943.

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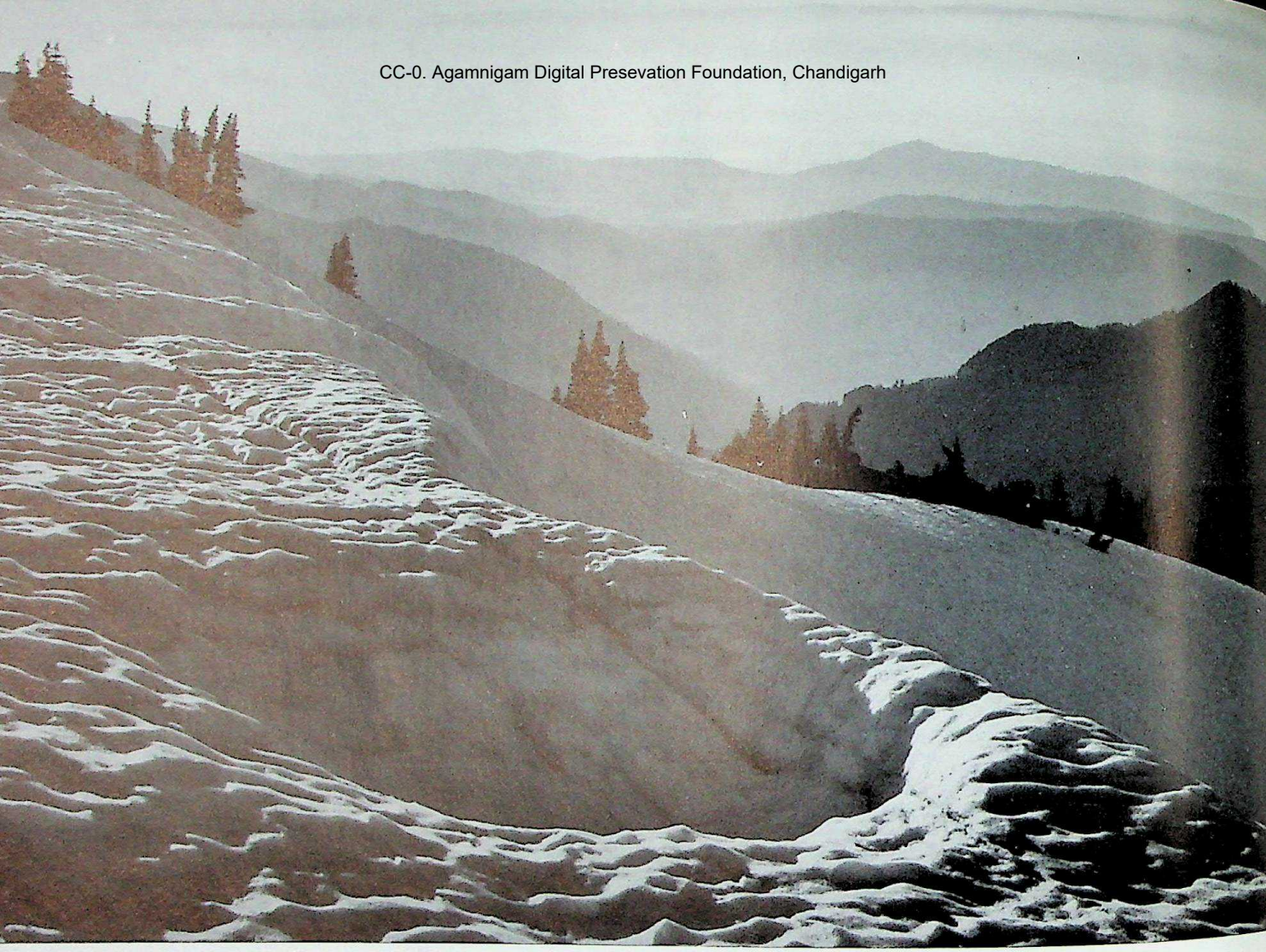

ADAMS, *above:* From Hurricane Ridge, Olympic National Park, Washington. 1948.
right: Church at Bodega, California. 1953. *Courtesy American Trust Company, San Francisco.*

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ADAMS, *below:* Roots. *Foster Gardens, Honolulu, Hawaii,* 1948.
right: Autumn. *Great Smoky Mountains National Park, Tennessee,* 1948.

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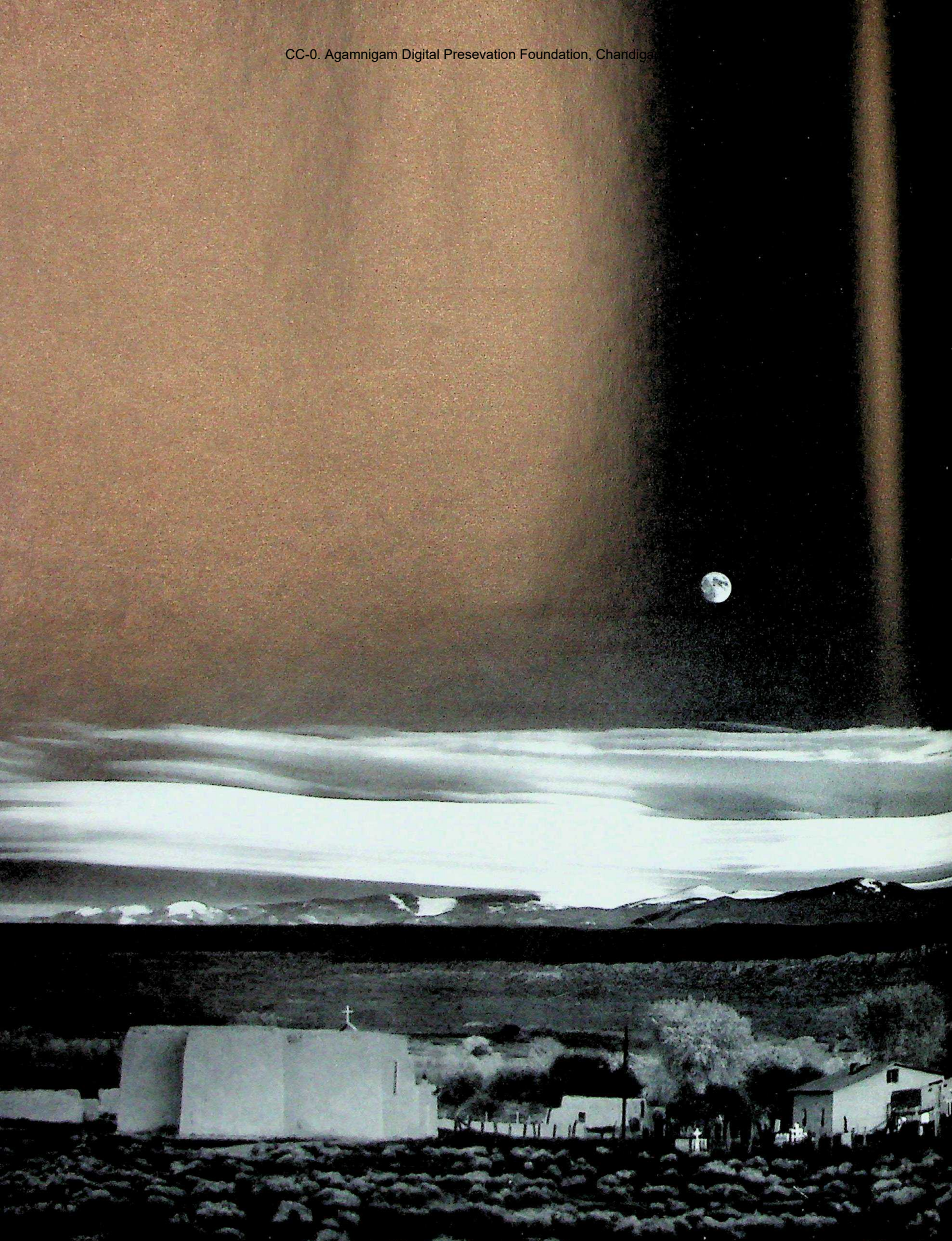

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ADAMS, Moonrise.
Hernandez, New Mexico.
1941.

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ADAMS, *above:* Rain. *Coast Range Hills, California, 1950. Courtesy Mr. Jack Stiball.*
left: The Face of Half Dome. *Yosemite Valley, 1927.*

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29.

Doisneau: Humorist with a Camera

Robert Doisneau has the true Parisian's habit of strolling—but never aimlessly. He is always alert, his camera always set for the light and the site, ready for use. He walks seeking the incongruous, the ludicrous, the humorous, the ironic, and the satirical to be found in life. He is a rarity among cameramen, a photographer with a puckish sense of humor; what he secures in his seeing is often really funny, really witty, with nothing forced or faked. Amusing situations come into focus; his reaction is automatic—he laughs and shoots the picture at the same time. There is a range to his human comedy: a goose farmer who resembles his force-fed geese; a statue of a nude seemingly shivering in the snow; American soldiers on leave, one snapping a photograph of a second who beams as he sits in the lap of a Maillol sculpture of a nude; Saul Steinberg, the American artist, posed in a curio shop that recalls his celebrated drawings.

In London's Hotel Claridge the droll French photographer tried to capture the way men looked at women, but was utterly defeated by the discretion of the British. He was more successful at the Crillon in Paris; the appreciative reactions of the boulevardiers made the series a successful story for the illustrated weeklies.

Doisneau's wit is never sardonic, never caustic. Collectors fascinate him but not those who attend art auctions to buy prestige names or hedges against inflation.

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Those whom he photographs are original eccentrics; one collects useless objects such as electric sockets and old bottle caps, which he methodically arranges and displays with pride as he wears a wig made of corks; another, a doorman in a Montparnasse night club, prides himself on his artistic taste, dressing up with monocle and astrakhan fur headpiece as he poses in front of his littered collection of questionable canvases.

Doisneau's Paris is not the tourists' paradise, though he follows the sight-seeing buses and joins the international groups to seek entertaining situations that usually go unobserved and unrecorded. In a night club near the Bastille, Doisneau trained his Leica on a blonde apache dancer who, when flung across the floor, rested her weary elbow on the knee of a delighted elderly tourist while his wife glowered at "such goings on."

These whimsical tableaux he often anticipates. In Romi's gallery on the Left Bank he photographed expressions of people who suddenly discovered a female figure, nude but for stockings, painted from the rear as she peers through a window drapery. Doisneau caught a series of comical expressions which were published in the world's press. He received letters from all over addressed simply, "Romi, Paris," all asking to buy the painting.

His pictures are in a really universal language, the situations appeal to people everywhere. Postmen and porters wait for a pedicure shop to open; a sentinel in front of the President's palace holds bayonet poised as he intently ponders a bunch of balloons; in a three-sided wrestling match even the referee joins the grimacing mock battle.

Doisneau writes of his work, "The marvels of daily life are exciting; no movie director can arrange the unexpected that you find in the street." The concrete streets

ROBERT DOISNEAU, Porters and Postmen Waiting for Pedicure Shop to Open. 1953.

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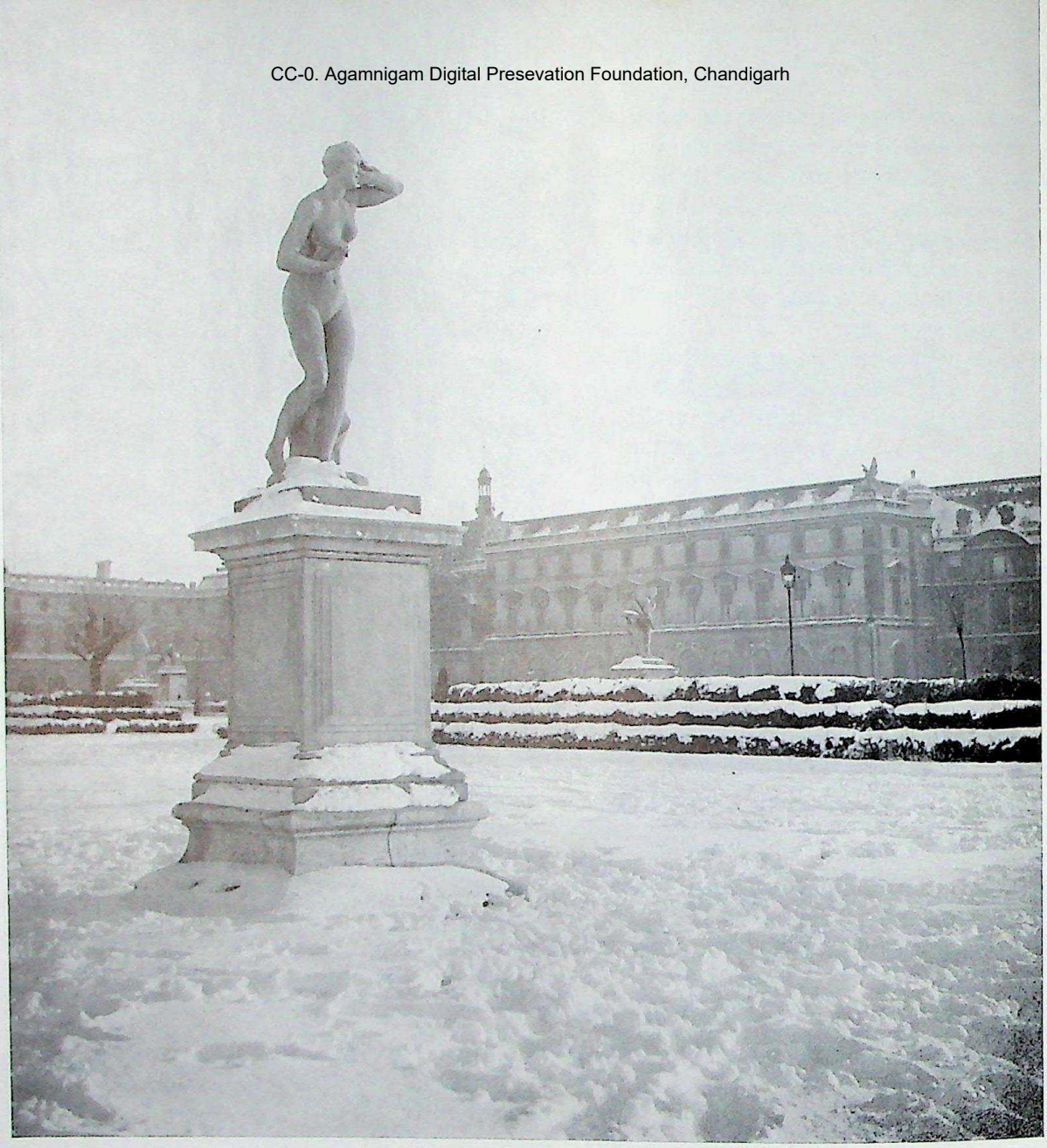

of the workingmen's suburbs know him as well as the paving stones of Paris. Blaise Cendrars, one-armed poet and writer of piquant prose, writes in the preface to Doisneau's book *Banlieue de Paris* (*The Suburbs of Paris*), "He is an astonishing little guy. I imagine him as an artisan worker joining the other artisans, sculptors and stained-glass-window makers, as they build Chartres Cathedral." The association is quite valid, for Doisneau was born in the spiritually inspiring cathedral city of the Beauce in 1912 and was raised in the shadow of its jeweled windows. Cendrars considers Doisneau a man of the Middle Ages and writes, "Every artist who pays attention to the small people of the street goes back to the tradition, and for a Frenchman the tradition is always the Middle Ages of the small craftsman. They are the same people, the people in today's suburbs and the people who built Chartres." He concludes that Doisneau is too humble to make any comparison of his work with those of the artisans, but, writes Cendrars, "as a sculptor with a camera he builds up character and atmosphere . . . he fills himself with irony and laughter so your heart is captured. Spring is blossoming in all the gardens and the

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Rapho-Guillumette Pictures, Paris and New York.

DOISNEAU, *below:* Side Glance. 1953.
left: Winter. 1947.

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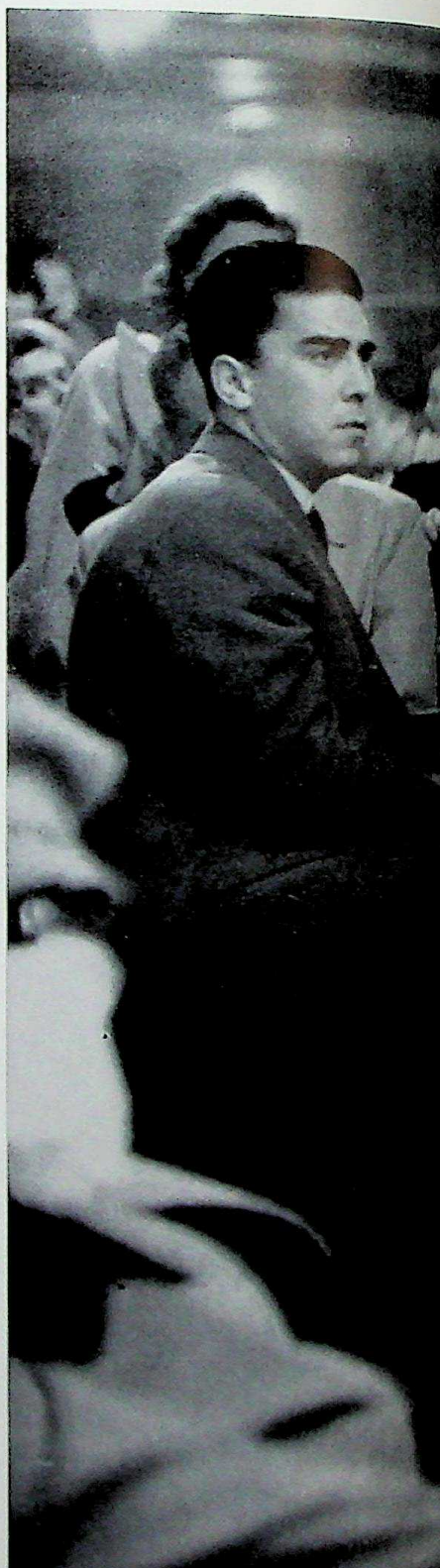
flower pots of the concierge are gay . . . it is a day when there's kissing in the streets."

Doisneau took a thousand pictures of people kissing—while walking in the streets, riding in tricycle or automobile, in amusement parks, subway trains, boats along the Seine: a spectacle of love in which uninhibited Frenchmen indulge everywhere. Another series of photographs was of the bread carriers; Doisneau caught bread in Frenchmen's hands carried as a cane, as a pointer, under the arm, on the head, on the back of a bicycle, broken in two, nibbled on while strolling—hardly ever covered by wrapping paper or a bag.

His gifted off-beat seeing is also evident in his journalistic assignments. For international picture magazines he has taken such diverse stories as the most costly, social costumed party seen in Venice in a generation and the economic life of small manufacturers in France. Industrial photography was his first experience with the camera when he worked for the Renault automobile company in 1935. Three years later he left the inflexible routine of photographing machine parts as he had earlier left the minute art of engraving, in which he was also an expert. Assignments of all kinds for the next several years taught him complete mastery of a wide variety of cameras, but by the time the war started his favorites were the Leica and the Rolleiflex. He carried a camera while a foot soldier, but in the Resistance his photographs of the occupation and the liberation served as a springboard for his reputation in the front ranks of photography in France.

Doisneau is a seasoned professional who always gives their money's worth to editor and patron on any of his assignments. His two real loves, however, which keep him from traveling much, are Paris and its people. With fast film and lenses he takes them as they are. Many of these pictures go into books; five books have been published to date, although not as yet translated into English. These are not the romantic, picturesque, and enchanting picture books of Paris brought back by tourists as souvenirs. Doisneau's explorations with his camera show his city exciting, honest, gay, alive, and direct with a sensitivity and breadth of humor distinctly his.



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DOISNEAU, Tourists and Apache Dance. 1952.

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DOISNEAU, *below:* The Blind Accordionist. 1953.
right: Saul Steinberg. 1953.

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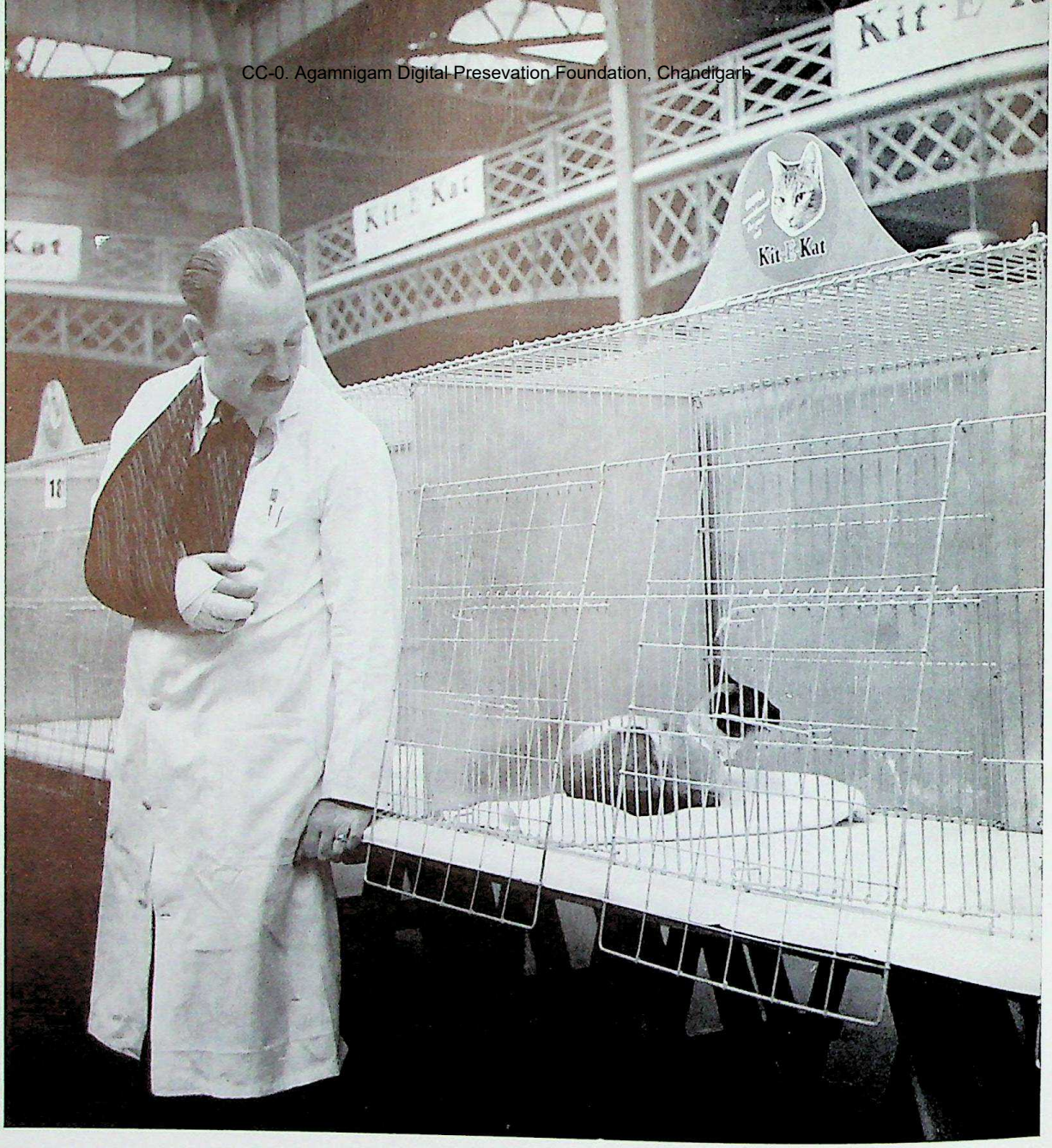

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DOISNEAU, *below:* Superior Animals. 1955.
left: Cat Show, London. 1954.

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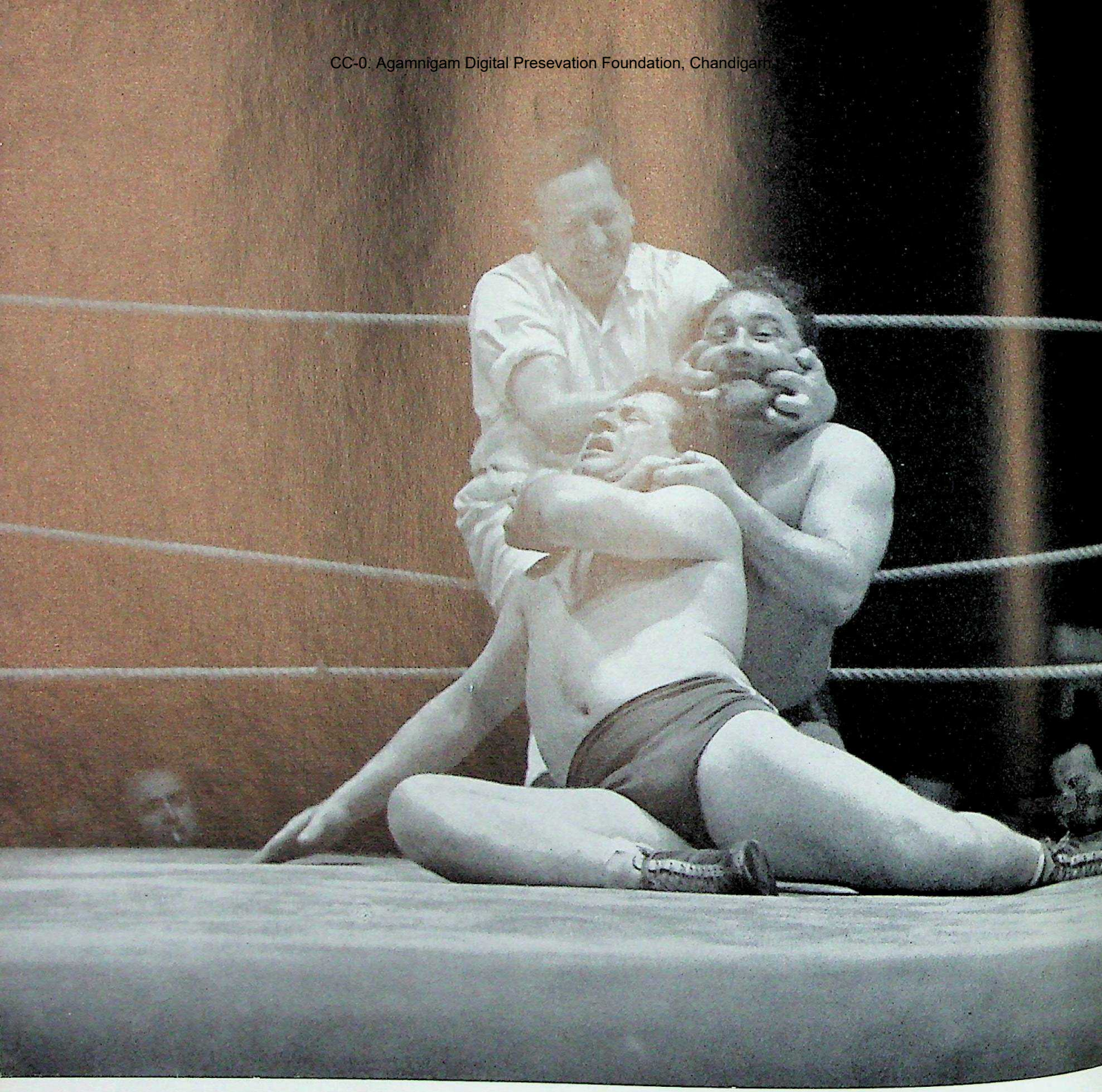

DOISNEAU, *above:* Catch-as-Catch-Can. 1952.
right: Sentry in Front of President's Palace. 1951.

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30.

David Duncan: Lensman of the Marines

David Douglas Duncan, an ex-marine whose reckless exploits with carbine and camera had earned him the title "The Legendary Lensman" in World War II, carried only a camera (for *Life* magazine) in the Korean War. He marched with the marines of the encircled First Division, his old outfit, in their bitter withdrawal from the border of Communist China to the Korean Sea. Icy winds of below-zero temperatures froze his gloved fingers and his camera shutters, and he thawed both out against his body. When he could feel that the shutter was working again he would quickly take a picture or two. He had to protect each roll of exposed film until he could put it aboard a plane for New York to be processed in *Life*'s darkroom.

Communist snipers picked off the soldiers' bent bodies as they marched across icy mountain trails and the snow-packed valleys of the ravaged peninsula into the cold wind mile after mile from the Changjin Reservoir at the Yalu River. Along a road he took a picture of dead feet frozen solid and sticking out of a jeep.

The intimacy of the soldiers' struggle was his. Often he was in front of them, photographing their unforgettable faces as they came into range. During vivid scenes of fighting in small pitched battles he waited beside them, catching their expressions as a trigger was squeezed or a hand grenade thrown. They kept marching back

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toward the sea and freedom. Commanding officer General Oliver Smith said, "Retreat! Hell, we're just fighting in another direction," and the fighting men cheered, held, and went on doggedly.

Duncan took close-up shots of the eyes of men completely oblivious to him. He came up close to take a picture of a man crying, of men with empty, staring eyes, as mentally beat as they were physically exhausted. He took memorable pictures of men in hand-to-hand combat, the killing at point-blank despite the misery inflicted by the elements. Duncan photographed the inexhaustible courage of the marines with a sympathy and honesty that make his photographs some of the best taken in any war.

Outnumbered 5 to 1, in the ten terrible days of withdrawal, the First Marine Division lost more than two thousand men. Duncan and his camera became to those marines what Ernie Pyle and his typewriter had been to the G.I.'s of World War II. A historian with a camera, Duncan secured an epic picture of American military heroism. His imposing photographs of the retreat were published in a book, *This is War*, along with his earlier photographs of the troops' first attack on the hill of the Pusan Perimeter and of the landing of the transports at Inchon. These are pictures of the troops in full strength, fighting their way to liberate the heavily fortified city of Seoul before the debacle at the Chinese border. Duncan was the last man off the beach at Hungnam when the retreat ended.

Duncan instinctively takes truthful, telling pictures. The factual, the emotional, and the spiritual are fused into stark symbols of war, as graphically intense as Gardner's *Dead Rebel* of the Civil War.

His photographs are uncaptioned, but the pungent prose of his essays matches the graphic power of his seeing. He writes in the preface, "This book is an effort to completely divorce the word 'war' as flung dramatically down off the highest benches of every land, from the look in a man's eyes who is taking his last puff on perhaps his last cigarette, perhaps forever, before he grabs his rifle, his guts and his dreams, and attacks an enemy position above him." He includes four hard-hitting, terse reports describing General Douglas MacArthur's first visit to the Korean front and questioning his gamble in military strategy that accounted for the devastating retreat. Duncan describes his flight in an Air Force jet-attack mission (the first ever made by a war correspondent), a snafu attack by R.O.K. troops, and the marines' first action in Korea.

Duncan's exploit in Korea was a continuation of his incredible adventures in World War II with Fijian guerrillas who marched across the island of Bougainville to set up a base and harass the Japanese troops behind the lines. In this sixty-day campaign he fought alongside the fierce, bushy-haired Fiji Islanders.

After more than a year in the South Seas he was sent to Washington, where he wangled orders for travel anywhere in the Pacific theater with his cameras. This was now his kind of war. He flew twenty-eight missions over Okinawa, three of them in a stifling, plexiglass belly tank which he attached under the wing of a P38. He secured a spectacular shot of a Corsair firing all of its eight 5-inch rockets over Japanese positions on Okinawa. This earned him a D.F.C. One of his best known photographs taken at this time was of a defecting Japanese lieutenant in an American plane, talking into a microphone as he guides an American attack on his own former base.

Those roving papers allowed 2d Lt. David Duncan to range all over the Pacific. He was the only marine photographer aboard the U.S.S. Missouri during the signing of the historic surrender in Tokyo Bay. He returned to the States in 1946 covered with ribbons: another D.F.C., three air medals, six battle stars, and a Purple Heart for a flak wound received in a flight in which the pilot over whose shoulder he was snapping his shutter was killed by a bursting shell.

Early in 1946, still in uniform and on terminal leave, Duncan joined *Life* magazine's staff, and three days later he was bound for Iran to cover the Azerbaijan incident. From Persia he went to Palestine to photograph the growing Zionist-Arab tension, then to Bulgaria for a view behind the Iron Curtain. By the end of 1947 he had photographed the partition of India and Pakistan and the Hindu-Moslem riots, and was back in the States with a wife whom he had married in Cairo. During the following eight years with *Life*, he was on assignments in practically every country of the Middle and Far East, taking pictures of small and big wars, incidents, happenings, and revolutions. His stories regularly appeared in *Life*, and dealt with the Greek Civil War, the Gaza Strip, the Egyptian Revolt, the Vietminh affair, Hindu pilgrims, Japanese sculpture, Egyptian archaeology, and the Islamic religion.

How did this intrepid peripatetic photographer-writer become what he is? Born in Kansas City, Missouri, in 1916, he was an ardent collector of snakes by the time he had finished high school and he had rambled in a jalopy all over the United States and parts of Canada. In 1933 he entered the University of Arizona to study archaeology, with visions of following field expeditions

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all over the world. A Kodak folding camera given him as a present he used for the first time on a fire which destroyed the hotel in Tucson. He photographed an unknown man in the crowd; it turned out to be the notorious criminal, John Dillinger. This was the beginning of his being in the right place at the right time with his camera ready. A year of dry-bones search and he was on his way to study marine zoology and deep-sea diving at the University of Miami. He was the first man to broadcast over a radio from the bottom of the sea while wearing an open diving helmet. His undersea pictures sold, bringing him the first money he realized as a photographer. Until then he had gladly given his photographs away just to see them published.

In 1936 the lean and wiry six-foot Duncan boxed more than forty bouts as middle and welterweight, winning most of them on decision. The same year his photograph of a fishing scene was awarded second prize in a national snapshot contest. After graduating from college with an A.B., he was off immediately on a friend's two-masted schooner headed for deep-sea fishing in the Caribbean. While he was climbing a limestone cliff on Swan Island south of Cuba, hunting iguanas, the rock gave way, cutting his right upper arm and wrist. With a barbless fishhook and rough sail thread he sewed up the nasty gash. Doctors later praised the stitching. A signed article and set of pictures about turtles in the Caribbean were sold to *National Geographic*. He had found his profession.

During the next few years he roamed all over the western hemisphere, from Nova Scotia to Argentina, always with his cameras ready. By now these were Leicas equipped with the fastest lenses available. He photographed the Mayan ruins of Yucatan for Pan American Airways. He was official cameraman for the Michael Lerner, Chile-Peru Expeditions of the American Museum of Natural History, catching giant squid and swordfish, whale-sharks and marlin, and for a hunting trip to British Columbia also sponsored by Lerner.

In late 1942 he was sent by Nelson Rockefeller's Office of Inter-American Affairs to make photographs in the interest of hemisphere solidarity. Mexico permitted him to take photographs for the first time of defense installations. He continued on through Central America, survived a plane crash in the jungle, but was hospitalized for an emergency operation when he arrived in Panama. While the doctors were sewing up his left side under local anaesthesia he asked that they take out his appendix as well. Though it didn't hurt him, it might some day, and he wanted no more of hospitals.

In 1956 he quit *Life* to join *Collier's* and go with John Gunther to Russia. When *Collier's* closed, he sold to *Life* the color pictures he had taken of Russian art treasures, to the *Saturday Evening Post* the brazen portraits he had taken close-up with flash of the Kremlin hierarchy, and to *Look* magazine another photograph for a cover—all from this one trip.

For many months, in 1957, Duncan lived in Picasso's château in Cannes, producing a unique picture profile of the great Spanish artist recently published in the United States.

"Lucky" Duncan, chronicler with a camera of man-to-man-combat wars, will perhaps, in the coming age of push-button warfare, photograph only art and artists, his second loves. But when American marines take to the field again anywhere in the world, David Douglas Duncan (how editors love that alliterative name!) will be among them, patiently securing with his cameras a sympathetic, understanding, and distinguished pictorial record, telling the world what these determined men endure for freedom.

The uncaptioned pictures which follow were taken by David Douglas Duncan in the Korean War during 1950. All, courtesy Life Magazine, copyright Time Inc.

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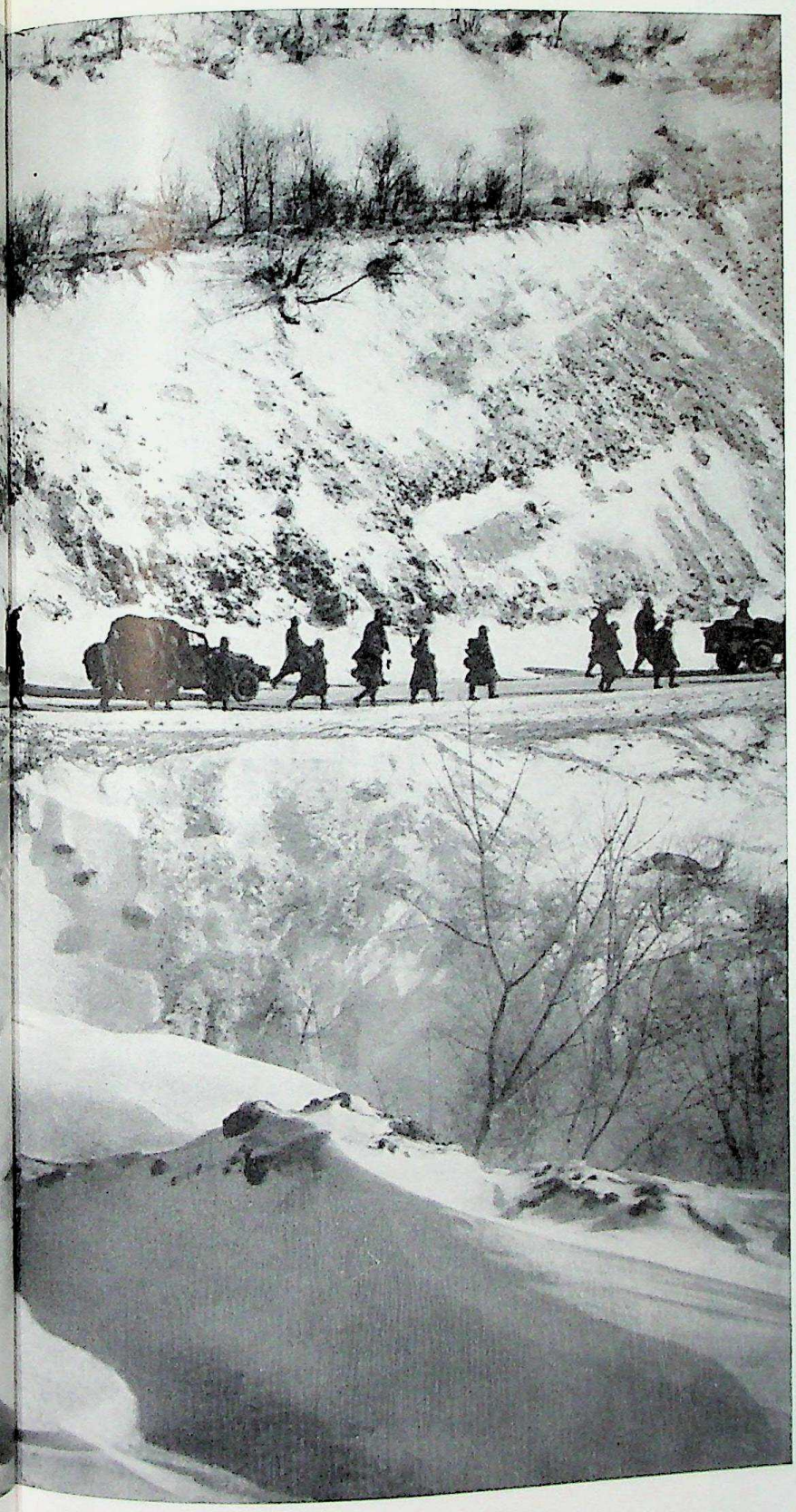

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31.

Brassaï's Probing Vision

Gyula Halasz he was christened. The year 1899; the place Brasso, Transylvania. To the world of photography he is Brassai, a Frenchman. That is as he would have it, though he has taken the town in which he was born for his name. French literature, painting, theater, and the city of Paris he loves as did his father, who had studied at the Sorbonne and had become professor of French literature at the University of Brasso. He brought the future photographer to Paris at the age of four. They lived there a year and the boy, too, fell under the spell of the city. He was taken to the popular theatre, to the Champs-Elysées, the Grand Boulevard, and the Bois; he saw the horses and carriages, the people parading in the Luxembourg Gardens and eating in the markets and restaurants where he sat with his father. This was the year that formed his future.

Twenty years later he came back, after two years' study at the École des Beaux-Arts in Budapest and an additional two years' study at the Art Academy in Berlin. Strangely, for the next eight years, he left art for journalism. To pin down certain aspects of Paris after dark he borrowed a camera from a fellow Hungarian, André Kertesz, a well-known photographer in Paris.

"Why didn't you sketch what you wanted as illustrations?" I recently asked Brassai. "Why did you turn to photography?"

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He answered, "How I became interested in photography reminds me of a story Isadora Duncan once told me. She was in love with an extremely wealthy man she called Lohengrin. He hired for her an accomplished pianist who played perfectly as an accompanist to her dances but whom she detested. His face drove her to such distraction that she had a screen placed between them when she practiced. Her disaffection grew steadily worse. One day they found themselves in a carriage sitting opposite each other, face to face; there was no avoiding him. It was a rough, curving road. The carriage came to an abrupt stop and she was catapulted into his arms. She said to me, 'I stayed there; I understood it was to be the greatest love of my life. In fact for years he had rooms in another part of Lohengrin's castle.' "

Brassai ended the story, "So too with me and the camera. I once detested her."

He haunted the streets entranced with what he saw through his camera. What he saw was too much for his pencil or brush; only the camera, he knew, could capture the whole fantastic world of Montparnasse. It was there he went night after night for months, for years. The paving stones, the bridges, the tourists, and the people who lived in the district he met in his wanderings, all took on a special meaning for him and his lens. He was searching for truthful photography. In 1933, from among the thousands of pictures he had taken, a publisher put together a book, *Paris de Nuit*, which rapidly sold out. A reviewer wrote, "Among the thousands of photographs that could be taken from the same point of view, there is one, signed Brassai, that gives the impression of freshness, of something new born through its style."

Publishers, impressed with the success of this book wanted Brassai to do London, Berlin, Rome at night. Brassai said he didn't want to become a specialist in any one kind of photography, that he had exhausted the theme of city streets at night. He started to photograph people indoors, what they did, how they lived, people dancing, people kissing, unaware of him and his camera.

"I make no comments with my camera," he says. "My camera sees all the different kinds of people and with impartiality transfixes them on the negative. Here they are, the apaches, the male and female homosexuals, the eccentrics. Whatever I see and I feel about people the camera sees—this is the result."

It became his second book. It was supposed to have been a big book with text by M. MacOrlan, but a mercenary publisher issued hastily an inadequate, plastic-bound, popular-priced booklet, *Voluptes de Paris*. Said Brassai, "I am so ashamed of this volume I never mention it in my list of books." Nevertheless, it contains an invaluable collection of his essential pictures probing the night life of Paris, curiously unsalacious despite the subjects. Here is a photographer with daring vision, profound in his understanding of people and their environment, of the prosaic, the incongruous, the ridiculous. His unfailing eye discovers his kind of a picture. He shows us glimpses down the side streets and alleys he knows intimately; he has been called "the eye of Paris." It is a revelation of every stratum. "The creative moment," Brassai has said, "lies in the selection of the subject."

The day that the Nazis entered Paris, June 13, 1940, Brassai left the city by subway. He took cover in the fields from the low-flying planes that were machine-gunning the roads as he walked and hitchhiked his way to Cannes 400 miles away. He would perhaps have sat out the occupation on the Riviera had he not happened to fall into conversation with a fellow tenant of the apartment building they shared in Paris. He learned that the basement where he had hidden his negatives was not waterproof. The security of a decade's work became more important than his own safety. He returned to Paris and rescued his negatives.

During the occupation his kind of photography was curtailed, and he resumed sketching. He drew Amazon-proportioned figures, emphasizing continued rounds and curvaceous forms of the nude. He showed these drawings to Picasso, who said, "Why did you give up drawing for the camera, Brassai? You have a gold mine and instead you exploit a silver mine." An exhibition of his drawings was held in 1945 at Renou et Colle Gallery; the artist Segonzac bought one. The fish-eye view of the camera can be detected as an influence in his sketches of the nude figure, a heightened triangular composition with limbs and thighs exaggerated as in some ancient fertility sculpture. An edition of his drawings with a poem by Jacques Prévert was published. Later he executed immense straight photographic backdrops for Prévert's ballet, "Le Rendezvous," which were considerably praised in Paris and London where the ballet was seen for several years.

During the occupation he turned also to sculpture, experimenting in three-dimensional stone carvings of the nude figure. The bulky flowing forms and solidity of sculpture taught him to see figures in space and to achieve a similar rounded effect in his two-dimensional photographs.

Brassai, like the well-rounded man of the Renaissance, has been able to create in all the arts. A poem entitled *Histoire de Marie* is a Surrealist-Existentialist work in

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which he attempts to produce the mood of night life in Paris "by ear, not by eye." I prefer the eye of Brassai. Henry Miller writes, in his preface to *Marie*, "There's not a subject of which he has not some knowledge . . . A wall covered with scribbled drawings can absorb his attention as much as the Venus de Milo."

New York's Museum of Modern Art, during 1956 exhibited a series of Brassai's *graffiti*, photographs of the scrawls and carvings he found on the walls of Paris. Symbols of what the young in the streets think, the *graffiti* show animals, birds, faces, gallows, hearts and arrows, and two black hollows that inevitably become empty sockets of staring death heads. Ever the consummate craftsman, Brassai waited for the cross lighting of the late afternoon sun to secure detail and deep, dramatic shadows on the wall.

Still another graphic art Brassai attempted was the motion picture; he made a twelve-minute film in the Paris zoo, which is now being circulated in American movie theatres. It concerns itself with the movement of animals; there is a ballet sequence of the intricate, graceful movements of giraffes' necks and of chimpanzees swinging from limb to limb, going in and out of focus, and creating weird patterns of flight. In discussing still photography and the cinema, Brassai said, "The true cinema is movement. The photograph is the contrary of movement; it is always the stopping of movement. The screen is always an image in transition, and we demand that it transform itself unceasingly. The fixed image and the arrested image of a single movie frame, is the rectangle of the plastic art where always has been inscribed the artist's drawing, painting and engraving and now photography. Each lives in the shape of the rectangle and adapts itself to it."

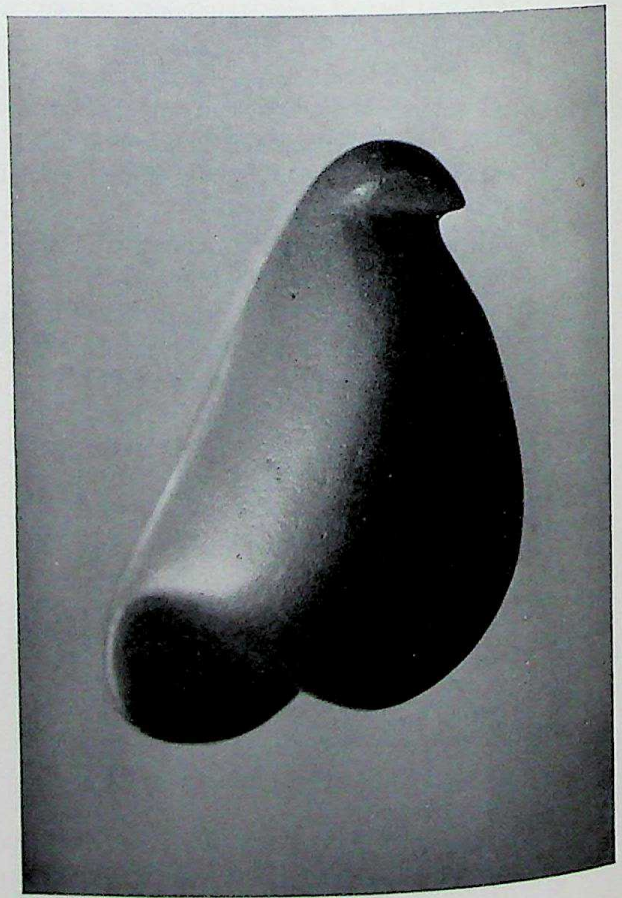
Brassai conceives flawless compositions within the rectangle of his Leica and Voigtlander cameras as well as on the square film used by his Rolleiflex. In all his photographs there is a sensitivity to patterns, color values, tensions created between objects in space and an accent of rhythms controlling the entire image. He selects and carefully arranges the visual stimulation which he considers as the isolated image, ever related to the outward dimensions of the picture.

Brassai works differently from the usual documentary photographer. His work is more static; into the instantaneous he injects his unique element of meditation, of revery. He seems not so much interested in the flux and action of a given picture as in holding the image—as in *Crosswalk on the Rue de Rivoli* or *The White Umbrella*.

In Spain several years ago he and his camera secured an absorbing chronicle, a vast photographic panorama of Spanish life published in France as *Seville en fête*.

In the summer of 1957 he was in the United States for the first time. He said, "I have always opposed color in photography, but at the same time I discovered America I discovered color. I've done something different, something distinctive with it, I hope. A new book may result. It is a good way to record life in the places I visit, a living series of pictures of what moves me."

In a lecture Brassai gave before the Societé française de photographie, he said, "To keep from going stale you must forget your professional outlook and rediscover the virginal eye of the amateur. Do not lose that eye; do not lose your own self. The great Japanese artists changed their names and their status ten or even twenty times in their ceaseless efforts to renew themselves . . . it is not right that the originality of that first vision should become a trick of the trade, a formula a thousand times repeated."



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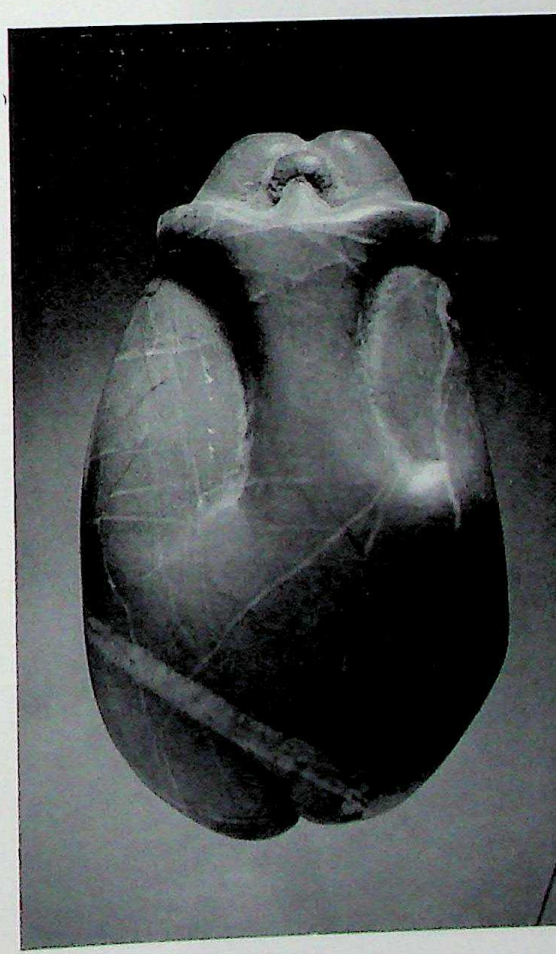

BRASSAI, A Drawing and Two Sculptures. 1943-1947.

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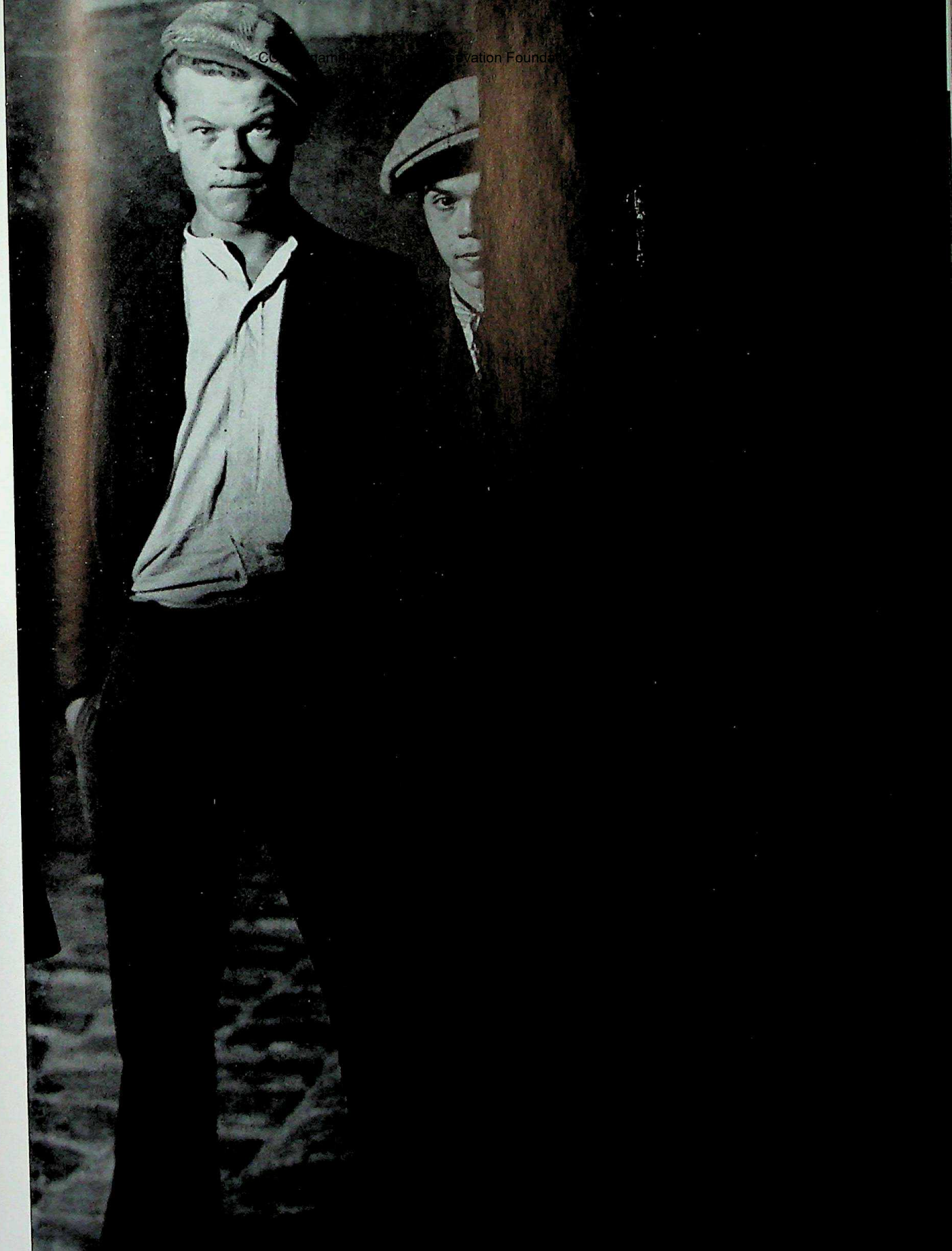
BRASSAI
below: Backdrop for Ballet "Le Rendez-vous," *1947*.
Made from photographs by Brassai.
right: Two Apaches, Paris. *1934*.



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BRASSAI, *below:* Picasso. 1939.
left: Le Pont des Arts in Fog and Mist, Paris, 1936.

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BRASSAI, *below:* Exotic Garden in Monaco, *1946.*
left: "Bijoux" in Place Pigalle Bar, *1932.*

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BRASSAI, *below:* Crosswalk on the Rue de Rivoli, Paris, 1935.
right: White Umbrella on the Riviera, 1948.

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BRASSAI, Streetwalker. *Two views*, 1933.

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32.

The Discerning Lens of Eisenstaedt

THE TEST OF TIME is as essential in deciding what is a work of art in photography as in lithography or etching. Repeated viewing of most prints quickly makes them seem dull and trite. Too often a picture with all its details is immediately and completely remembered; there are no new relationships of content or composition to be discovered. Such a picture obviously serves its purpose as an illustration or technical experiment and is quickly to be forgotten.

Many photographs by Alfred Eisenstaedt on the contrary become increasingly provocative with each viewing. His best works stir the senses and emotions as do the best of prints in all the graphic arts; they haunt the memory and draw one to view them again and again in order to find fresh associations, new interpretations. Their strength lies in their simplicity of design. Eisenstaedt's portraits clearly reveal the spirit and character of his subjects whether celebrated or unrenowned. His scenes likewise, in their intimacy, make the viewer a participant, giving him a feeling of being actually present beside the photographer in a picture of 1932 showing a lovely dark-haired girl seated in an adjoining box of the beautiful five-tiered La Scala opera house in Milan. It is a suspended moment, just before the conductor lifts his baton and the lights are lowered on a most appealing, festive social scene.

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There are authenticity, reality, and honesty in Eisenstaedt's photographs. He does not pose people; he takes them wherever they are, in whatever light exists, at whatever they are doing. They forget that he is there. Perhaps his small size—he is 5 feet 4 inches—and his small cameras—he uses Leicas exclusively—help make him unobtrusive; but it is his psychological approach that serves him best. People are ready to like him because he is ready to like them. He discerns their character quickly and reacts accordingly. He puts them at ease by the way he works. He knows his equipment thoroughly: he evaluates the light subconsciously, rarely consulting his light meter, instinctively works fast, and covers his camera with his body until he is ready to shoot. He talks softly, he is relaxed; the subject forgets him. When the precise instant is at hand Eisenstaedt becomes acutely sensitive to all the factors that he weighs. It is his moment of artistry and his decisive finger secures a photograph now indelibly marked with his unique style.

That brilliant, precise style of Eisenstaedt's grew out of his pioneering efforts with small cameras after he had mastered pictorial photography. There is still something of his early, soft, painterly feeling for dense shadows and soft whites to be found in his frank, realistic pictures of today. The blending of the pictorial and the candid makes him the towering photojournalist consciously working for the vertical page of *Life* magazine, and telling his story to its weekly readership of more than twenty million people.

Eisenstaedt, like most great photographers, entered the field as a mature man. The year was 1926—he was twenty-eight years old. Fifteen years before, while attending school, he had been given a Kodak which he thereafter used intermittently without any purpose other than to take snapshots. In 1916 he was drafted into the German army. Badly wounded during the offensive in Flanders, he was invalided out of the service, not to regain use of his legs for more than a year. The well-to-do Eisenstaedt family was ruined during the postwar inflation, and the recently hospitalized veteran took a job selling buttons and belts to the wholesale trade. For several years he carried his sample case, attended concert hall and opera house, for he loved music, and talked about philosophy and art at the cafés where, one evening, a friend introduced him to pictorial photography. He learned soft focus, bromoil, and all the darkroom tricks to make photography resemble a painting or a charcoal drawing. He sold his buttons only for income with which to buy more equipment. He sold an "arty" print to an editor of the *Berliner Tageblatt* who showed him several candid portraits and suggested he try to emulate the style of Dr. Erich Salomon, an early exponent of the miniature camera.

Eisenstaedt bought a small camera, forerunner of the Leica. It had a fast lens but required focusing with a magnifying glass on the ground glass. He took various assignments, often wearing white tie and tails which he had fitted up with pockets to hide the small plate holders the camera demanded. It was during one of these assignments that he took the memorable picture of Marlene Dietrich attired in male top hat and tails.

On December 3, 1929, Eisenstaedt quit buttons and belts for good to become a professional photographer. A week later he was in Stockholm to cover the Nobel Prize ceremonies, securing an intimate informal picture of Thomas Mann standing slender and assured at a podium; a magnificent moment in the great novelist's life before he was forced to flee the Nazi terror to preserve his intellectual integrity. Eisenstaedt became Europe's best known press photographer during the next several years, accepting all sorts of assignments, including a flight of the Graf Zeppelin to Brazil, and then he too escaped from the Nazis.

For the Associated Press in 1935 he covered the Ethiopian preparations for the Mussolini-manufactured war with Italy. Eisenstaedt took more than 3,500 negatives using three Leica cameras fitted with 35, 50, and 90 mm. lenses. His pictures of the Queen of Sheba's descendants enhanced his reputation internationally, particularly a close-up picture of the calloused, mud-caked feet of a prone Ethiopian soldier.

In December, 1935, he arrived in the United States pleased but surprised to learn he was deeply respected for his pioneer efforts in candid press photography.

In November, 1935, Time Inc., after considering calling their proposed new publication *Show Book*, named it *Life* magazine and hired Alfred Eisenstaedt as one of its first photographers. On the more than 1,300 assignments since then he has covered every conceivable kind of a story both large and small in every corner of the globe. More than fifty of his photographs have made *Life* covers.

People on a circular or square staircase have always appealed to him. He repeatedly finds this composition or variations of it, nurses, midshipmen, hotel employees. Perfect spacing and proportion invariably result in a series of diminishing concentric circles or squares—compositions which dramatically presents his diverse subjects.

Eisenstaedt has innately the photojournalist's most

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important requisite; he is there when something is happening. He takes the overall picture as well as the salient detail; together they make the picture story. The movers and shakers he takes, the personalities and the place. Consciously he brings the viewer along with him to be an eyewitness; his purpose is to make *Life's* readers feel like participants. This ability to make people identify with a picture is the high standard of professional photojournalism reserved for a rare few who have developed personal styles.

Always the perfectionist, Eisenstaedt goes to any lengths to get his picture. He had himself tied for six hours to the bridge of the Queen Mary to photograph the height of a storm's fury. Once he was led blindfold to a gambler's hideout in Tokyo. Another time his life was endangered as he photographed the Mau Mau Terror in Kenya. He endured the enervating rain forest of Dutch Guiana, which he explored for weeks with his camera. Tenacious and fearless when pursuing a story, he exhausts every angle with infinite patience to achieve his kind of picture.

In general coverage of news stories as in his portraits, he is the complete master of his medium. His file is a veritable *Who's Who* of the world in practically every field of endeavor. Eisenstaedt once wrote about taking portraits, "If I photograph a king and he is a king in his own right, I am equally a photographer in my own right. You will only be able to photograph people if you truly like them and they respect you."

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ALFRED EISENSTAEDT, Ethiopian Judge. 1935.

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EISENSTAEDT, *below:* Feet of Ethiopian Soldier. 1935.
left: Spectators at Trial in Ethiopia. 1935.

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EISENSTAEDT

above: Jan Masaryk and Eduard Benes. 1947.
right: Augustus John. 1951.

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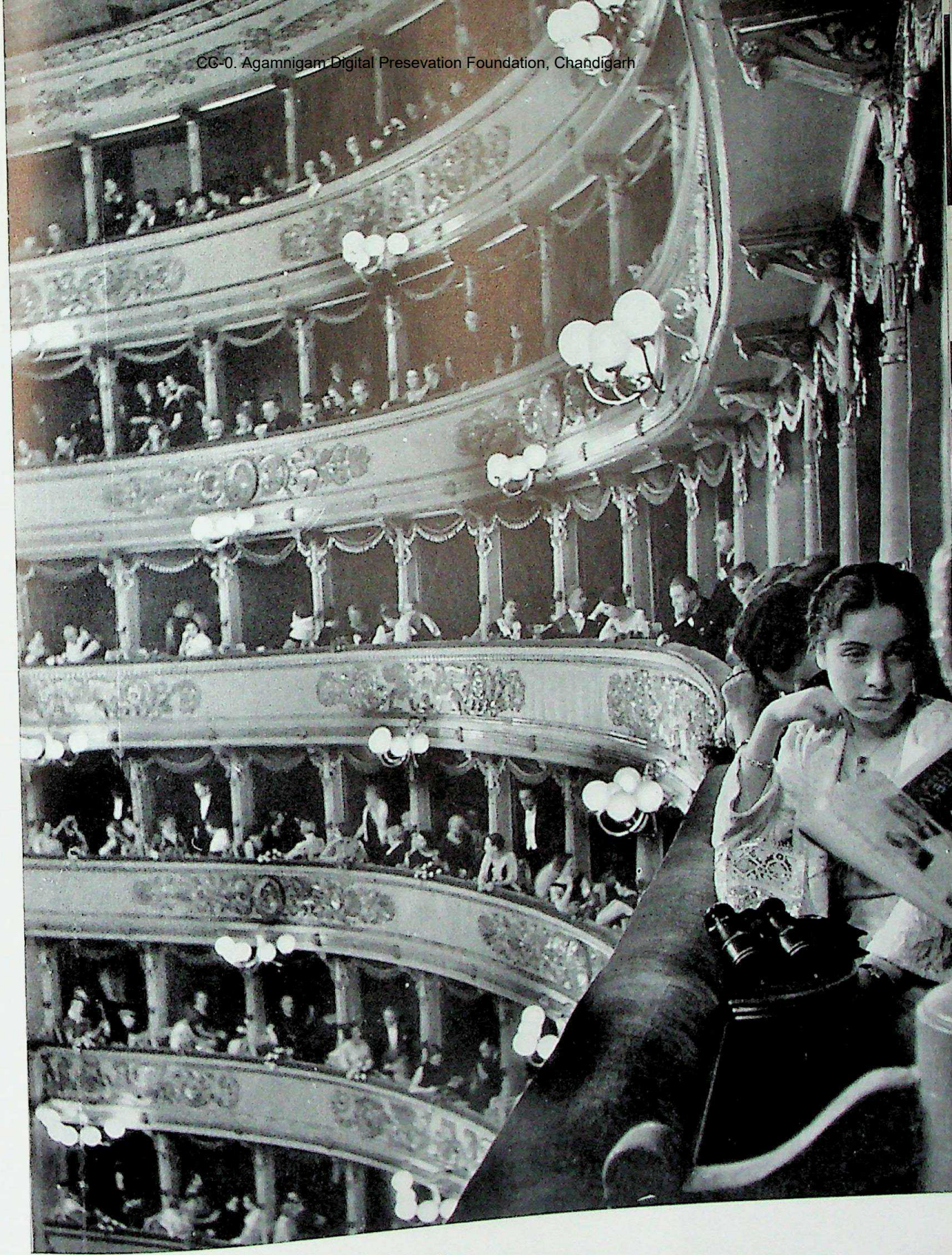

EISENSTAEDT, *above:* La Scala Opera House. *Milan, 1932.*
left: Nurses Attending Lecture, Roosevelt Hospital. *1937.*

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EISENSTAEDT
Mussolini.
1934.

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EISENSTAEDT, *above:* Joyce Cary. 1951.
left: Gondolier, Venice. 1947.

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33.

Callahan and Siskind— The Magic of the Commonplace

HARRY CALLAHAN

Harry Callahan, whom one critic termed "photographer of the obscure and the insignificant," grows out of two traditions of photography, the interpretive and the constructive. The first influence is the tradition of Edward Weston, Paul Strand, and Walker Evans, interpreters of the commonplace, who transform into aesthetic visions unaesthetic objects found in nature—vegetables, eroded rocks, etc.—and in the man-made scene—fences, signs, dilapidated houses, and dirty city streets. The second influence is the tradition of Moholy-Nagy and Man Ray, creators of photograms, nonobjective images created in the darkroom by combining and arranging shapes on a piece of sensitized paper and using a flashlight to expose.

In Callahan's pictures there is the fusion of these two traditions, the documentary and the abstract. He digested and integrated these influences into a personal vision, seeing things adventurously and saying them succinctly with his camera.

Callahan opens our eyes to the familiar and the commonplace: sights of no beauty in themselves he makes beautiful. An upturned waste basket silhouetted in the dust; a desolate park bench in winter; a water fountain and a concrete step in the snow; a lowly weed consisting

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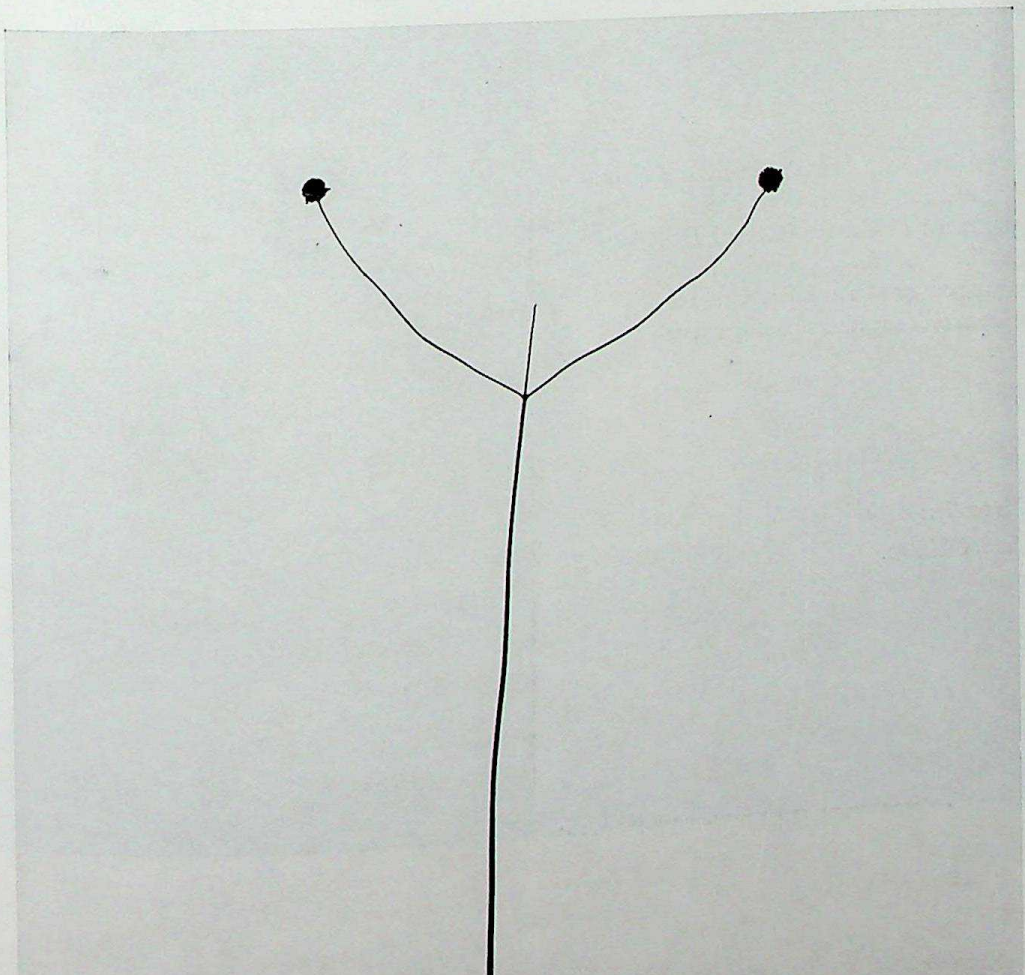
of three delicate, tapering lines subtle as any seen in a master drawing; all taken with straight photography. With his camera he captures an intimate portrait of the inanimate, which he makes emotionally effective.

His pictures do not show us more and more of nature, like those of many cameramen. Callahan deliberately shows us less; he makes photographic discoveries by reduction, by simplification, and by isolation. The insignificant image becomes important. He has conquered the technical problems of his medium. He experiments with multiple exposures or moves his camera to superimpose images, thereby achieving repeated patterns of varying tones and interplay of lines and movements in the resultant textures.

In all his experiments Callahan retains contact with reality. The exact image cannot be foreseen when a camera is moved or a plate exposed several times, but the accidental effects can be anticipated and controlled. The photographer must take advantage of the accident; often an alert photographer will make the artistic accident repeat itself.

Callahan has a profound feeling for the façades of buildings, of which he makes original graphic statements. The buildings are rarely shown with people; they are peopled with inhabitants who do not show their faces but who make themselves felt—through a window reflection, a fluttering piece of lace curtain, a still life of edibles on a window sill. The building commands us to see what the photographer saw, the proportions, the play of planes, the gradations of tones. The awesome, the fearsome, and the tawdry behind the façade are sensed only upon deeper penetration of the photograph. The emotional intensities in Callahan's photographs come through with a still kind of reticence.

Callahan is not slavishly devoted to nature, with horizon line in place and perspectives respected. The finished



HARRY CALLAHAN
A Weed. 1951.

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photograph is the criterion. This is neither a picture of a trivial natural form nor a record of a dramatic slum dwelling. Unlike Walker Evans's photographs of social criticism, Callahan's pictures carry no social message. His pictures supersede the source of his inspiration: the overstressed and the overdramatic are filtered out; the essence of the subject remains. He stresses single aspects of nature to reveal his artistic purpose: lines simple, straight, and of varying breadth, skeins of lines or multiple superimposed lines in various tones, whites permitted to peep through various shades of black and gray. Callahan is concerned to control patterns, textures, rhythms, contrasts, and composition, but, beyond technique, he is involved with an intuitive and sensitive interpretation of his subject.

In Callahan's multiple-exposure pictures of buildings, much as in Cubist paintings, the background and the foreground no longer suggest perspective or depth. The subject is deliberately changed by superimposing several images on the negative so that a repetition of forms appears, multiplied and dislocated but making for dynamic movement in the space of the picture plane.

The image, no matter how hackneyed, commands the camera view, and there is no altering after exposure. Callahan's work repudiates the pictorial, but his photographs are never total abstractions. He stops short of eliminating subject matter entirely. Through his intrinsic artistry and unique vision he has advanced the tradition of photography.

All of his subjects to date have been taken in the United States, mostly in Chicago where he is head of the photography department of the Institute of Design of the Illinois Institute of Technology. In 1957, Callahan received a $10,000 grant from the Graham Fellowship, the largest sum ever awarded a photographer for experimental study.

All photographs in this section courtesy Harry Callahan, Chicago.

CALLAHAN, Dearborn Street, Chicago. *About* 1953.

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CALLAHAN, *below:* A Plant. *About 1951.*
right: Chicago Loop. *Multiple exposure, 1952.*

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CALLAHAN, La Salle Street, Chicago. *About* 1953.

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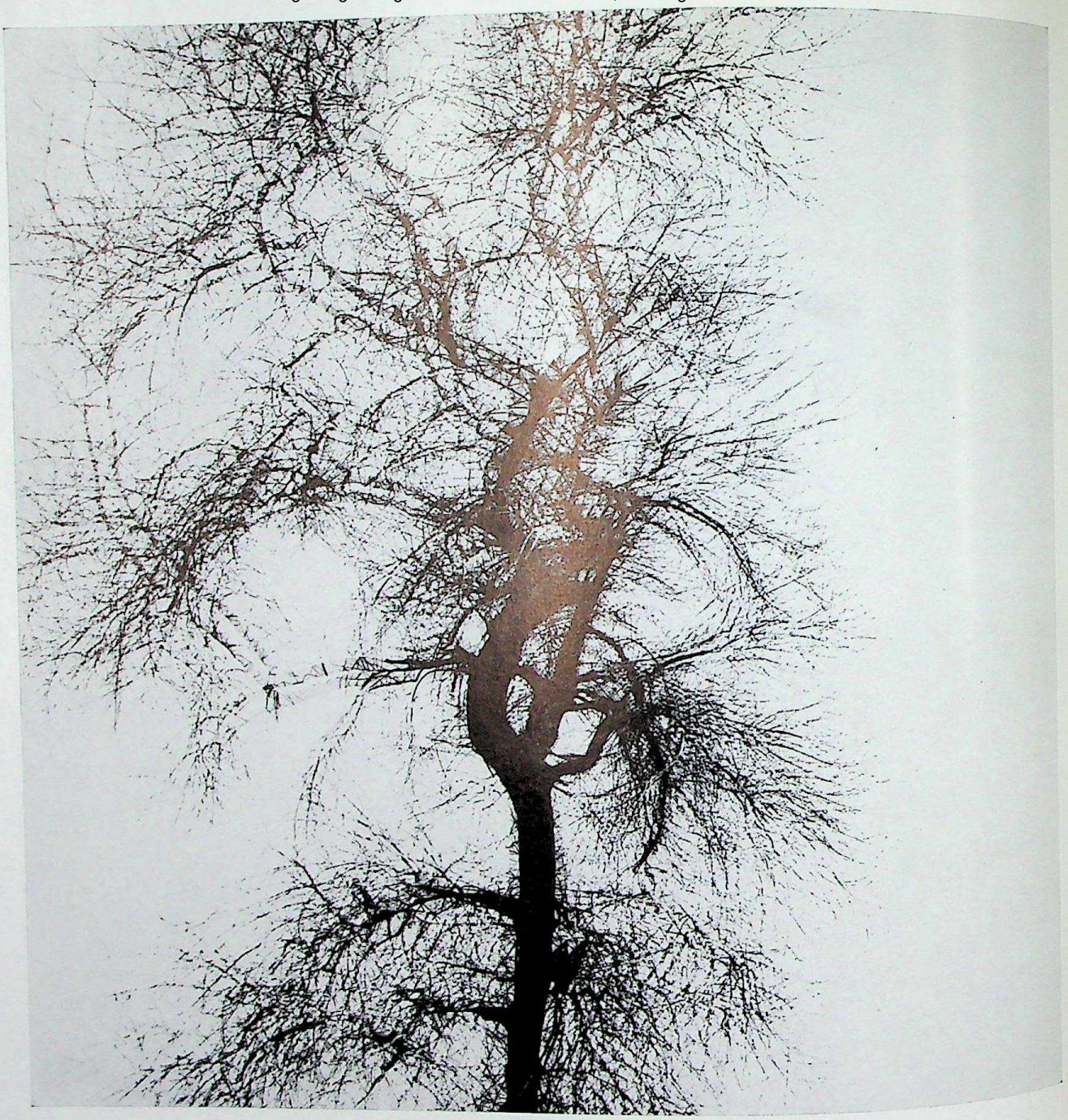

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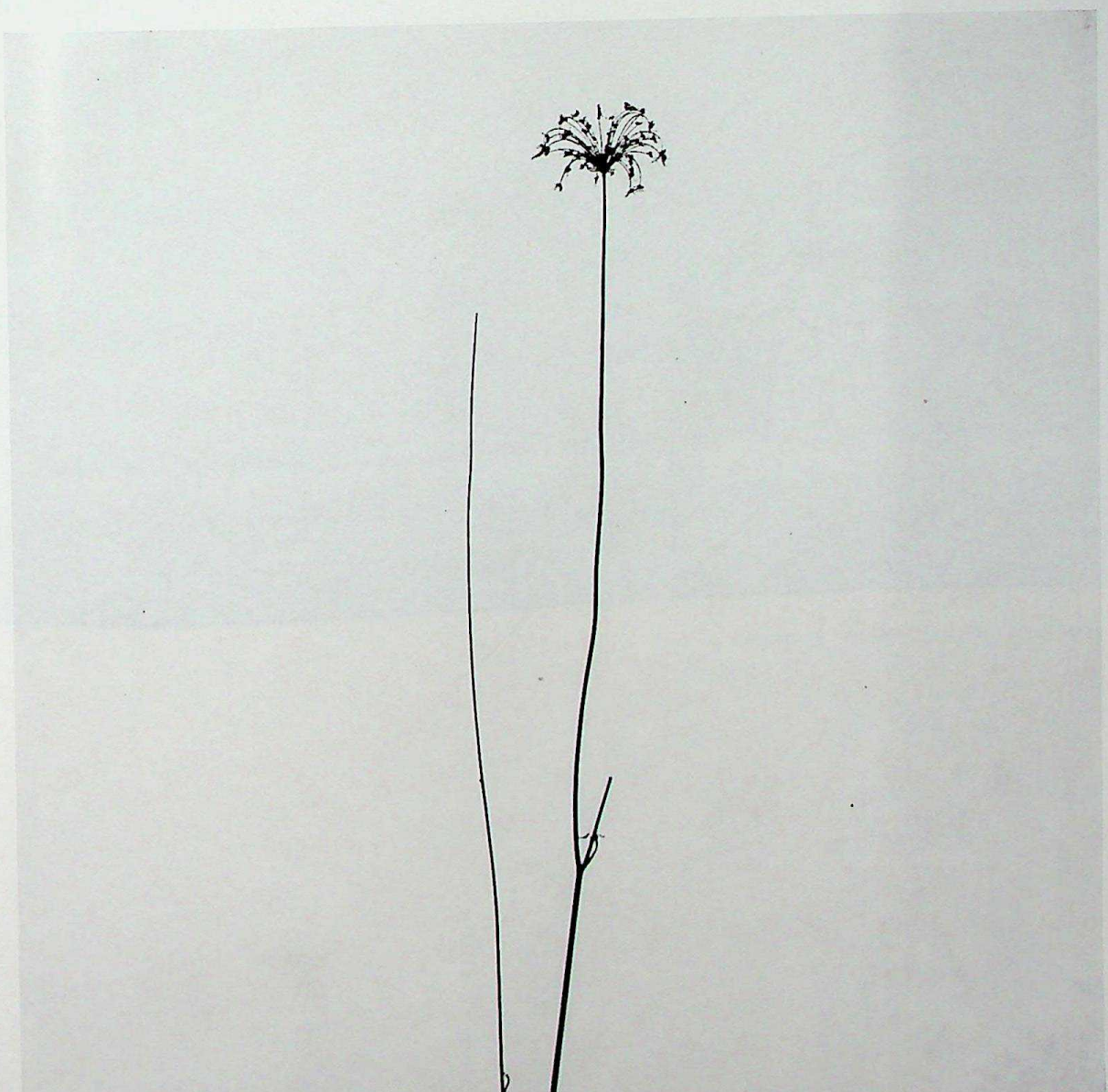
CALLAHAN, *below:* Weeds in Snow. *About 1951.*
left: Tree in Winter. *Multiple exposure, 1956.*



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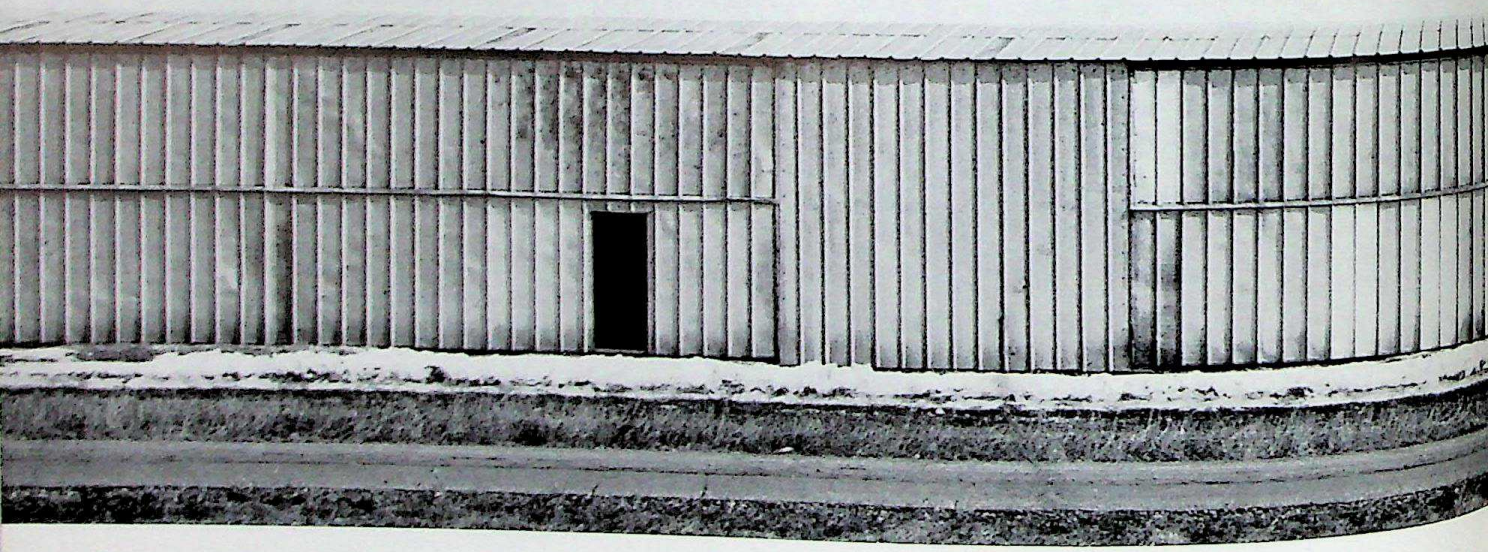

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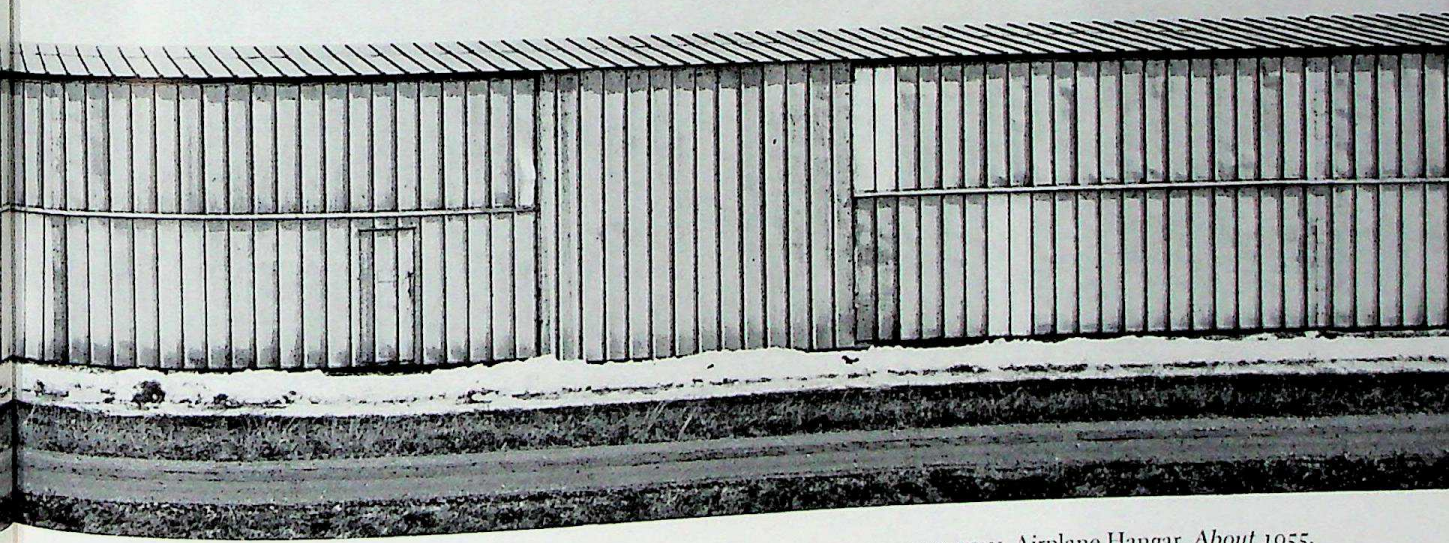

CALLAHAN, Airplane Hangar. *About* 1955.

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All photographs in this section courtesy Aaron Siskind, Chicago.

AARON SISKIND, Degraded Sign. *New York City, 1951.*

AARON SISKIND

AARON SISKIND, just turned fifty years old, was born in New York City. For the past several years he has been teaching at the Institute of Design (founded by Moholy-Nagy as the Chicago Bauhaus, now part of the Illinois Institute of Technology), where he has been one of the powerful influences on the students who are today's avid proponents of modern art and design.

Siskind has not always photographed in his current abstract idiom. He originally won recognition as a documentary photographer, especially for his series depicting New York's Harlem, Martha's Vineyard, and Bucks County, Pennsylvania. He now says about this long apprenticeship in craftsmanship and realism, "I found I wasn't saying anything. Special meaning was not in the pictures but in the subject. I began to feel reality was something that existed only in our minds and feelings."

He turned for this "new reality" to abstract images that he found in lowly objects ordinarily ignored. Siskind's work now bears striking similarity to Abstract Expressionist paintings of our day, particularly to those canvases that emphasize big unrelated forms, nongeometric abstractions, or strong textures and patterns in colors subdued almost to black and white. It is contemporary aesthetics with a camera. The photographer suggests plastic ideas to the painters, just as modern artists such as Willem de Kooning, Robert Motherwell, Franz Kline, James Brooks, and the late Jackson Pollock through their paintings suggest ideas to the photographer. Siskind with his camera, however, does not compete with the brush nor does he attempt to emulate or imitate painting. His work is an idiomatic photographic expression of the *avant-garde* conceptions of modern art.

One great difference between photographer and painter is that Siskind does not make his image in a darkroom; no matter how abstract there is a foothold in reality. One of his motifs, to which he often returns, is the wall. To him it is never just a wall; the various forms seen in the wall come alive. Defaced and marked, the wall asserts itself far more than a blatant neon sign. It commands, like the marked walls of the public gardens in ancient Greece, where everyone was interested in the message, or like a school yard wall covered with messages that have meaning to children. Siskind with his camera seeks to capture meanings, not so much the message as the originality young artists display in making drawings on roughly textured walls with purloined chalk, combined with meaningful words or letters resembling some primitive writing. Wall images have their own reality, which Siskind wills into becoming a photograph. He sees the human element in these images and instills it in his pictures. He responds to the shape, form, and mood of a wall and to the feel and sight of weathered wood, jagged glass, peeled paint, rusted metal, sand and seaweed, and to the effect of time and the elements on concrete, paint, paper, plaster, and brick.

Here is invention through selection of nontraditional

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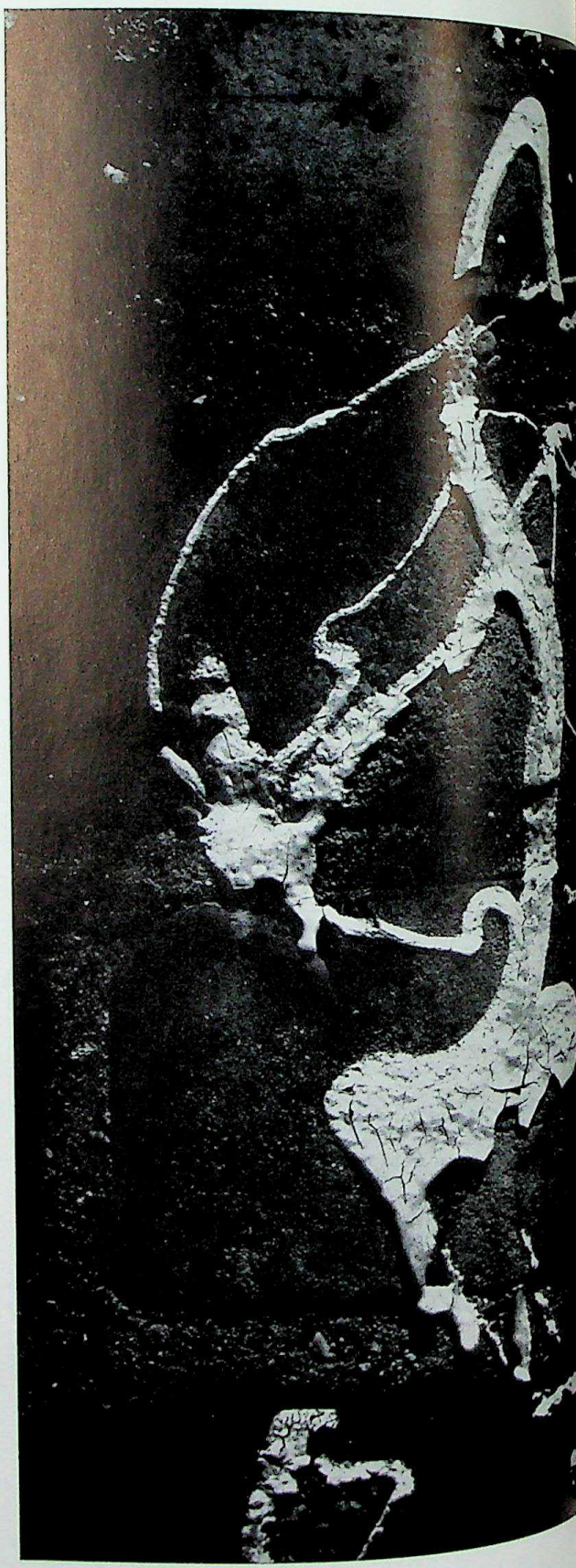
visual stimuli. Siskind searches for photographic inspirations in the useless dregs of the city, rejecting the usual formal and accepted motifs. He discloses the excitement to be found in the relationship of irregular blobs and whorls, accidental lines, roughly hewn textures, and broken patterns. The inconsequential comes alive through his artistry. His photographs are personal experiences developed between him and the subject, but the photograph lives as an object apart from the subject. The photograph is a created graphic print. The composition he selects has to have complete unity, the required light and no more, for there is no elimination or retouching once the exposure is made. Siskind photographs what he finds as it lies, without rearranging it. Though the photograph may be nonrepresentational there are movement, repetitious and complementary forms, textures varying from delicate and soft to harsh and violent, gradations of light and shadow, and an over-all design to control the finished result as a work of art.

This is true of all of Siskind's photographs, whether the subject is an oily paper bag, lichens on rocks, weathered billboards, or rusty metals. They are works of art wrested from a surrounding world of junk and chaos. His work transcends the subject, but recognition of the subject heightens the emotional response to his artistic interpretation.

Though Siskind's cryptic ideas may be communicable to comparatively few, the image, with its sensuous surfaces and its structural unity, may readily be enjoyed by many. He recently said of his work, "I regard the photograph as a new object to be contemplated for its own meaning and its own beauty."

Siskind has the rare gift of converting and transforming a subject into a stimulating expression of his own vision, a picture born in the imagination as he discovers it in the abandoned rubbish heaps of the city or in the unimpressive manifestations of nature.



SISKIND, Paint on Brick Wall. *Chicago*, 1948.

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SISKIND, *above:* Oil Stains on Paper. *New York City, 1950.*
right: Stone Fence. *Martha's Vineyard, Massachusetts, 1954.*

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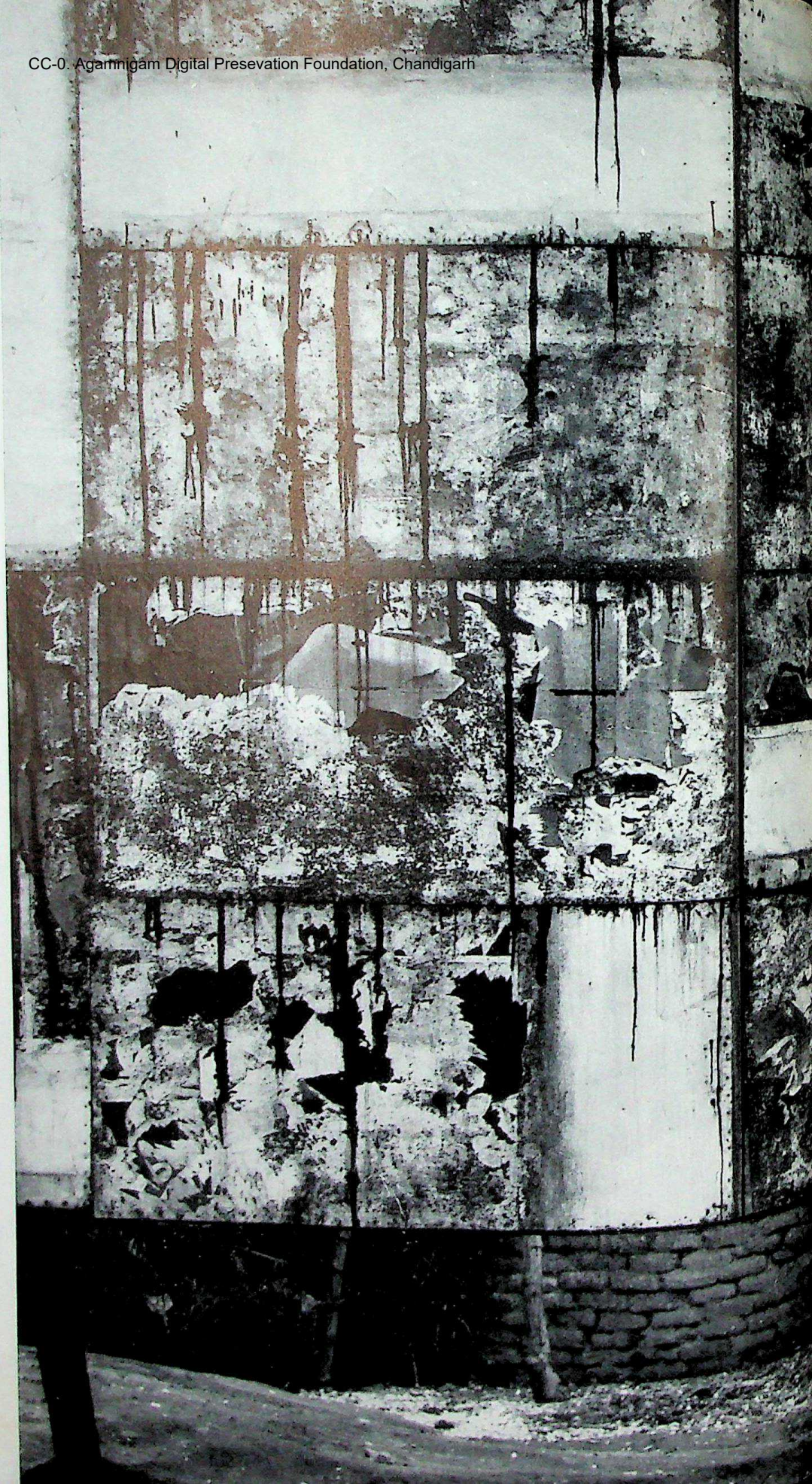

SISKIND, Billboard.
Mexico City, 1955.

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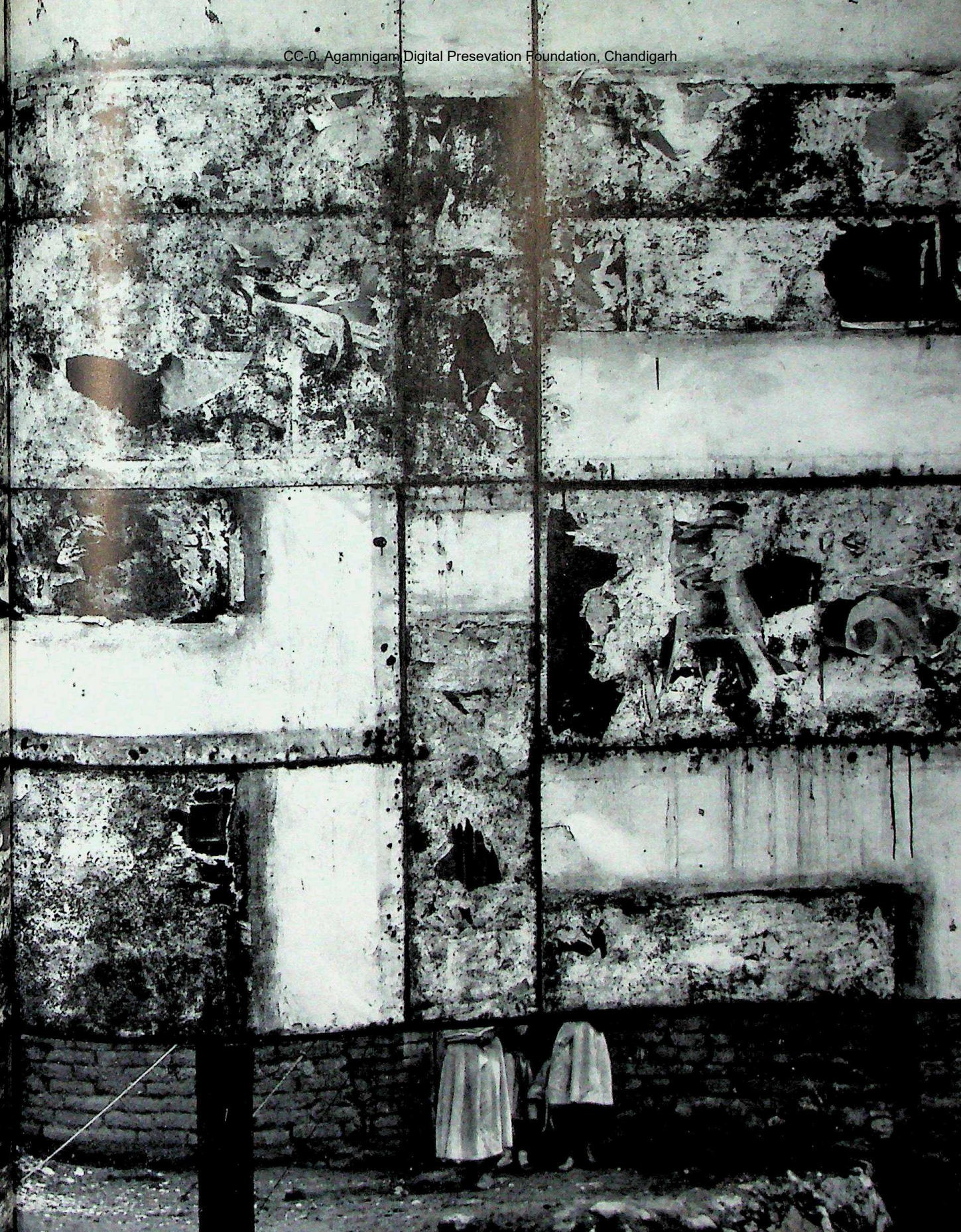

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SISKIND, *above:* Scrambled Fence. *Harlan, Kentucky,* 1951.
left: Peeling Paint on Wall. *Jerome, Arizona,* 1949.

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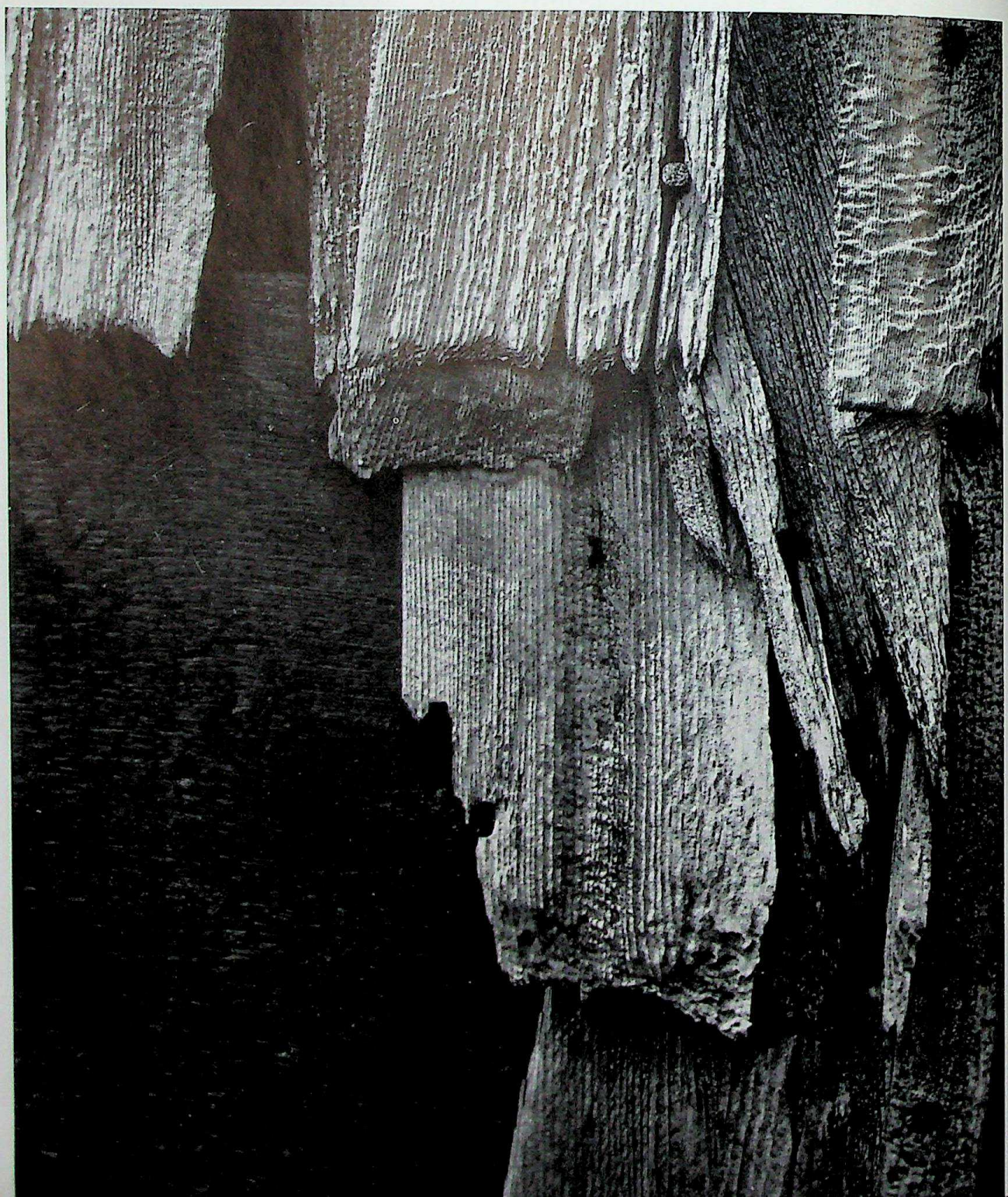
SISKIND, *below*: Side of Old Barn. *Gay Head, Massachusetts, 1947.*
right: Rock by Ocean. *Gloucester, Massachusetts, 1944.*



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34.

Margaret Bourke-White: Roving Recorder

MARGARET BOURKE-WHITE discovers the objective reality of any given story, isolates it, and then relates each photograph to the totality of the story she envisions. She creates a dynamic journalistic photo-essay, a complete story communicating visual insights not only about how the subject looks but about what it says to her.

She seeks to picture the environment and the social background of her subjects, the work they do, the lives they live. She is aware of their appearance as she is aware of their personalities; the fraction of a second when the picture is taken is alive with meaning. Her purpose is visual communication for the great body of *Life's* readers; immediate recognition for those who see superficially and deeper meanings for the more sagacious. Her way of capturing the image calls forth varying levels of emotional response; her essays are of complex dimensions, new experiences in journalistic photography. Her work is a sort of candid eavesdropping, consciously controlled by the shape of the 35mm film she uses. Both she and *Life's* readers complete the picture; each feels a participant. Recently she wrote, "In some cases you feel you have stepped right into the lives of the people you are photographing."

It has been so since her first picture story for *Life* magazine. The original cover on November 23, 1936, was her photograph of the overpowering, repeated concrete

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forms of Fort Peck Dam; in the lead story of nine pages she depicted intimately the workers' lives in the boom-town atmosphere of the Montana construction project. This dynamic treatment was an important factor in setting *Life's* style of photographic essay. It was a new style for her as well. Her reputation had been gained as an industrial photographer, taking unusual perspectives of skyscrapers and grain elevators, steel mills and smoke-stacks, machine gears and dynamos. "She transformed the American factory into a Gothic cathedral and glorified the gears," wrote one critic.

A graduate of Cornell University, where she had studied biology and philosophy, she found her life's interest in the camera, first as a commercial photographer for bankers, architects, and industrialists, making limited progress, and then as a photojournalist for magazine publishers, developing photojournalism to a high personal level. Henry R. Luce hired her as a photographer for *Fortune* eight months before the first issue appeared in 1930. The following year she was sent to Germany to photograph the Krupp Iron Works and then, on her own, she went to Russia to take pictures of the Soviet's Five Year Plan. Without escort or assistance she photographed factories far from the cities, securing a perceptive record of the ruthless initial industrialization plan attempted by the Bolshevik government.

Fortune and *Life* magazines have sent her everywhere on the globe, a million miles, she estimates, producing a quarter of a million negatives. A chic, soft-spoken, attractive woman, danger stimulates her; she controls her fears through immersing herself in the sensitive seeing of photography. A camera steadies her hands and purpose as a scalpel does a surgeon's.

In Moscow, which the Nazis bombed at first by the light of parachuted magnesium flares, Margaret Bourke-White, the only American photographer in Russia, set up her cameras on the roof of the hotel opposite the Kremlin to take her pictures by this suspended eerie light.

In World War II she was the first woman photographer accredited to the United States Armed Forces and immediately felt the taste of war when the troopship she was aboard was torpedoed and sunk en route to North Africa. This was not the only time she was to lose her cameras; five fell into the sea when a helicopter from which she was doing a story on U.S. Navy rescue techniques crashed into Chesapeake Bay.

She covered the American infantry men's two-year war in Italy, risking her life to get pictures, as they fought their way up the boot into Germany. She barely escaped when Nazi flyers attacked an unarmed observation plane from which she was photographing the bombed city of Cologne. She shocked the world into awareness of Nazi maniacal destructiveness with her pictures of human starvation in the concentration camps and of the dead in the grisly gas chambers.

Margaret Bourke-White writes crisply and brilliantly, perfectly complementing her photographs. She tells a story succinctly without editorializing. In *Dear Fatherland, Rest Quietly* the pictures give graphic dimensions to the verbal descriptions of her feelings. Two other books of her war experiences illustrated with her pictures were published during the conflict, *Shooting the Russian War* and *Purple Heart Valley*; then in 1949 there was *Halfway to Freedom*.

The war over, she again began her travels; one of the first assignments she accepted was to photograph Gandhi in India. Gandhi's secretary made her learn patiently to spin before he permitted her to photograph the Mahatma at his wheel. She later wrote of this experience, "If you want to photograph a man spinning, give some thought to why he spins. Understanding for a photographer is as important as the equipment he uses. . . . In the case of Gandhi, the spinning wheel was laden with meaning; for millions of Indians it was the symbol of the fight for independence which Gandhi successfully led."

She was on hand with her camera during the hectic, frenzied days of the "Great Migration," the exchange of the Hindu-Moslem population, and the birth of Pakistan. Stark, contrasting pictures of the dead put out in the streets of Calcutta to be devoured by vultures; a rich moneylender's ostentatious house decorated with crystal chandeliers, gilt mirrors, and family portraits, and a lovely sensitive portrait of a girl wearing necklaces of beads and British coins.

For Margaret Bourke-White a return home to *Life's* office is but to ready herself for another assignment. Racial tensions and conflict about "apartheid" brought her to South Africa in 1950. In Johannesburg she went almost two miles into the earth to photograph sweating Negro miners in temperatures that registered 100 degrees despite air conditioning.

The following year over Kansas she flew 42,000 feet high in a jet plane to photograph another jet attempting to break the sound barrier, and took an exquisite abstract picture of white vapor trails in an illimitable black sky. Pursuing the Air Force story, she was the only woman accredited to fly on a mission in a B-47, the fastest bomber at that time.

Undeterred by the price that the Communists put on

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her head to keep her from entering Korea, she went deep into the mountains held by the Red guerillas, photographing the bitter struggle in a series of decisively dramatic pictures.

Lectures, writing, and *Life* magazine assignments now make up her existence. Nothing daunts her zeal for the camera. She has taken pictures from every kind of a conveyance; on a recent assignment she went from Maine to Central America by canoe, plane, and muleback, to secure a photographic essay on American Jesuits, which was later published with a special text in collaboration with Father John La Farge, S.J. In former years she had collaborated with Erskine Caldwell (to whom she was once married); in 1937 they published *You Have Seen Their Faces*, two years later *North of the Danube*, and in 1941 *Say Is This the U.S.A.?*

In her thirty years with a camera Margaret Bourke-White has produced a tremendous variety of photographs, including industrial, war, and foreign reporting, and photographic essays of world-famous leaders, among them Roosevelt, Churchill, Madame Chiang Kai-shek, Nehru, and Pope Pius XII. She has created a chronicle of our time, a personal interpretation through photography of vital days in contemporary history. Consciously an artist with the camera, Margaret Bourke-White explains her viewpoint, "Everything in the picture should contribute to the statement . . . good photography is a pruning process, a matter of fastidious selection."

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MARGARET BOURKE-WHITE, *above:* Sharecropper's Home. 1937.
left: South African Gold Miners. Johannesburg, 1950.

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MARGARET BOURKE-WHITE
above: The Plantation. 1937.
right: Indian Girl. 1948.

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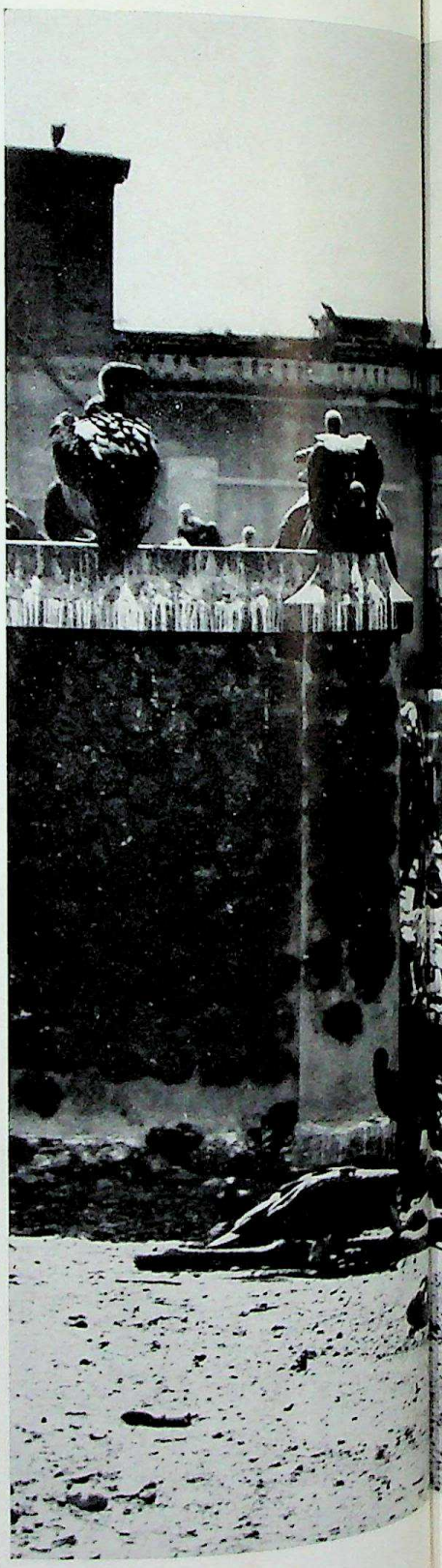

MARGARET BOURKE-WHITE
above: Moneylender's Home. *India, 1947.*
right: Vultures. *Calcutta, 1948.*

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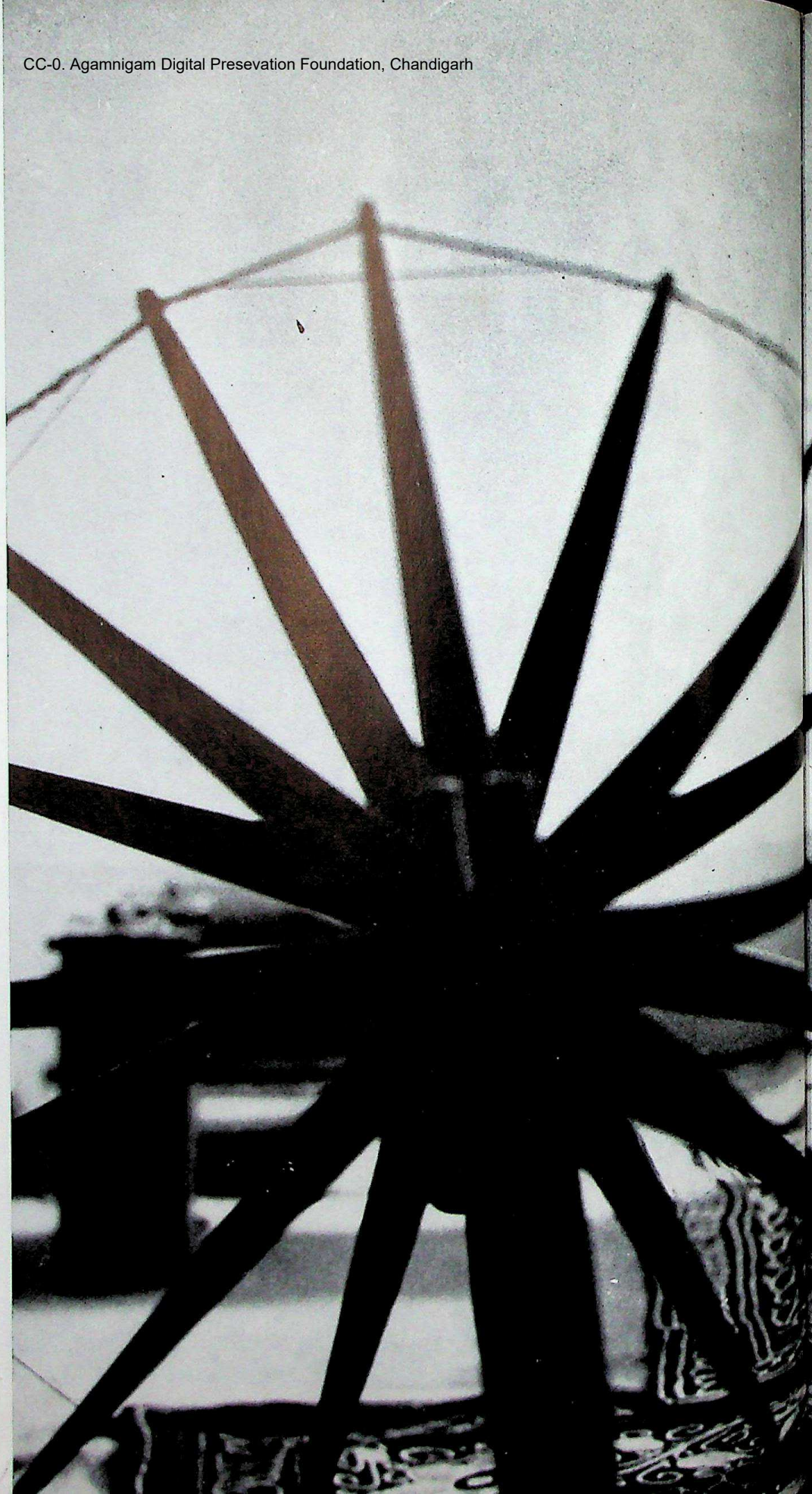

MARGARET BOURKE-WHITE
Mahatma Gandhi at a Spinning Wheel. *Poona, India, 1946.*

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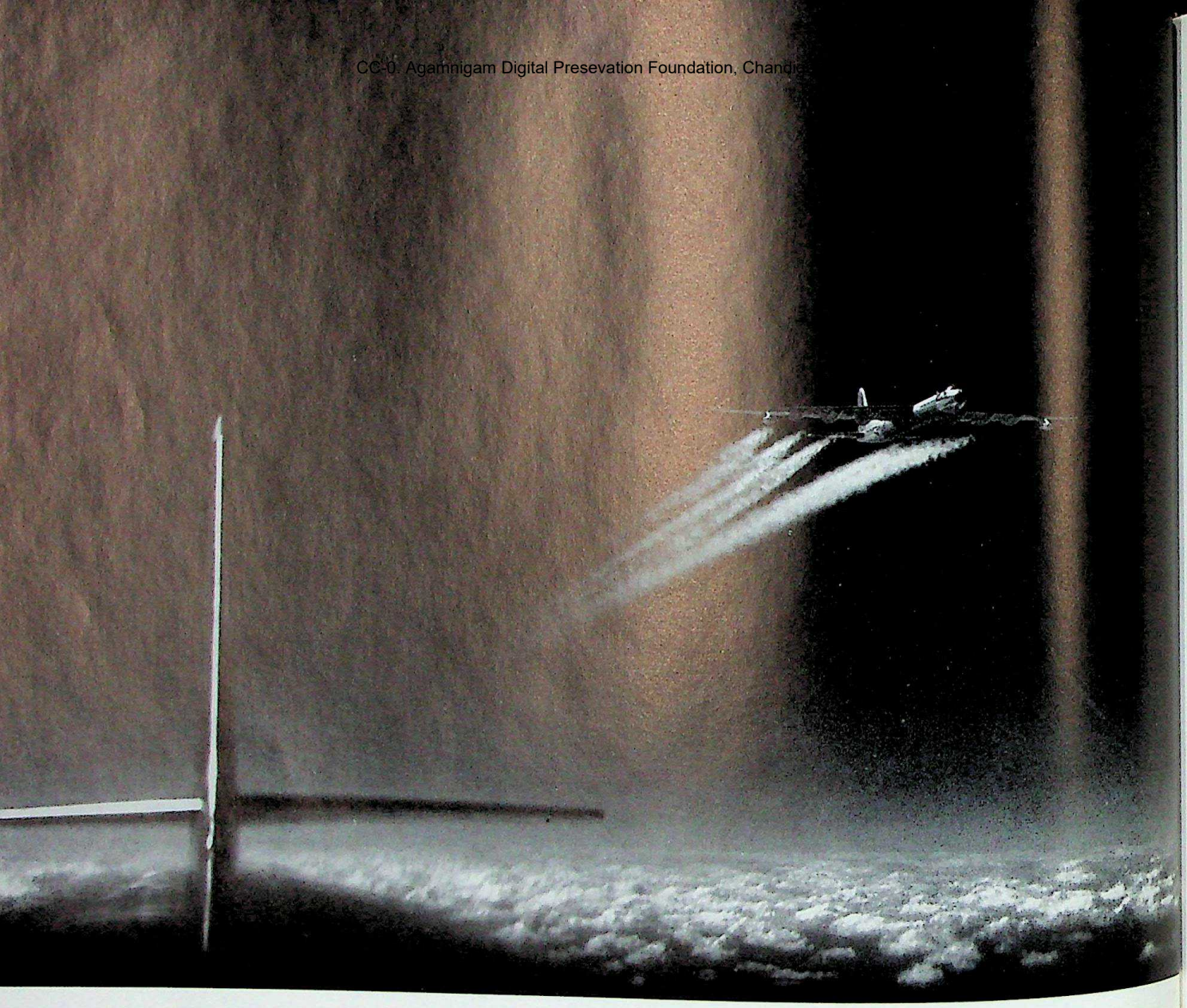

MARGARET BOURKE-WHITE
above: 42,000 Feet over Kansas. 1951.
right: The Face of Liberty. 1954.

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MARGARET BOURKE-WHITE
Buchenwald Victims. *1945.*

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35.

Van der Elsken: Storyteller in Photographs

Chicago's Near North Side or Greenwich Village in New York, try as they will, can never equal in character or atmosphere the Left Bank of Paris and, in particular, the district of Saint-Germain-des-Prés. No place on earth means what the Left Bank has meant to the artist, the student, the expatriate, the "would-be," and the "flawed" as a mode of life.

The romantic mood of a Trilby or Tricotrin seated in Leonard Merrick's *Chair on the Boulevard* is now a part of the dead past. Romance is still there, but it is now spelled in lower case. No longer is it a style of literature, a release from Zola's realism.

F. Scott Fitzgerald's lost generation has gone; rich Canadians and Argentinians have replaced the sons and daughters of America's industrialists who once gloried in the reckless life that was "Parisienne" in those roaring twenties.

And though the district still supports the studio of Moreau and the Atelier Suisse, the ateliers of Leger and Zadkine are now close by to refute the rebels of yesterday, and in the Beaux Arts more ex-G.I.'s and foreigners are enrolled than French students.

The district, despite all these changes and despite inflation of the franc, still has its seventh-floor single rooms at $2 a week with water and toilet three floors down; but there is a difference. Instead of a Mimi or Rudolph

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dwelling in the garrets there is a photographer, who hauls his water up three perilous flights of stairs to develop his negatives.

Ed van der Elsken was a photographer who in 1950 did not have $2 for one of these rooms. When he arrived in Paris he was less than twenty-five years old. In his native Amsterdam he had been an art student, had endured the Nazi occupation, and, at the end of the war, had turned to the camera. A year of darkroom work, and he was a ready-made free-lancer with no jobs.

In Paris he slept first under the bridges amidst the offal and filth of the derelicts, the "clochards" of the Seine. He learned quickly to rest during the long night sitting in a café chair. He listened to the youths of the district speaking their own peculiar brand of French, and once in a while he took a picture, unobserved. He had only two rolls of 35mm film when he arrived. He made each shot count and he held on to his Leica even when he was starving. Night after night he sat in the cafés, observing, taking his few precious pictures. Then one morning he went to work. He had tried to write, but words were not sharp enough for his tastes. A 1.5 lens was, and he needed film. He found work in a photographer's darkroom where he did every conceivable kind of job. It was all to the good; he learned many subtleties in technique that he applied to his own work.

He found a seventh-floor room; took a job as a photographer—correspondent for a Dutch paper, taking pictures he disliked—but it released him from being what he termed a "darkroom slave." He now had time to take photographs day and night. He started to assemble a direct, unposed, total picture of youth in Saint-Germain-des-Prés. The district by now had forgotten he had a camera in his hands. He took thousands of pictures, filing each negative carefully. Editors who saw these prints were not interested. The papers back home wanted pic-

All photographs in this chapter courtesy Ed van der Elsken, Amsterdam.

ED VAN DER ELSKEN, "Dreams" in Saint-Germain-des-Près. 1953.

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tures of visitors in front of the Eiffel Tower or the Opera. These hack sales kept him going.

A picture story began in his mind one night when he met an attractive young girl from Canada who had come to Paris with ambitions to become a singer. Here was a girl who seemed to symbolize all the rebellious young talent annually drawn to the fabled Latin Quarter. He took pictures of her with the many men she attracted, art students, American sailors, Senegalese musicians, and the man who convinced her to shout a song in a café rather than sing it on a stage.

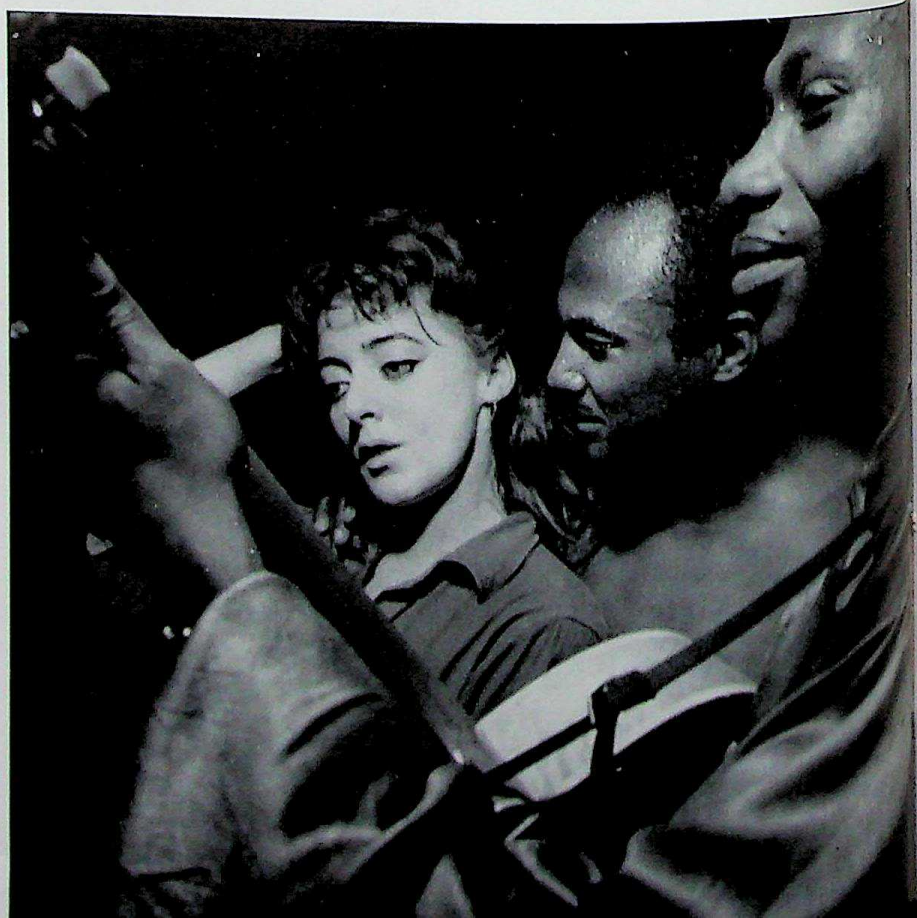
Van der Elsken followed her for two years with his camera. He took pictures of her smoking marijuana, of her drunk and of her sober. He caught her in all her moods, and the camera worshipped her beauty. In his hand it never lied; he made it tell what the lens saw, honestly. She had become so accustomed to his being there that she was unaware of his camera. It pictured her wearing a turtle-neck sweater that emphasized her bizarre beauty; it captured an unexpected picture of narcissism as she contemplated her soft-cheeked reflection in a frighteningly pitted mirror and as she kissed her intoxicated, Medusa-haired likeness in a rain-steamed window.

She tried a song-and-dance act teamed with another girl. Paris cafés pay little, but the experience was new, something different. The shocking became hilarious and the Existentialist caves welcomed the diversion. Painters found her a fascinating model.

She planned to stay in Paris, but one day in 1953 she left the Left Bank—fortunately not before Van der Elsken had caught his final picture of her. "Pregnancy and Saint-Germain-des-Prés wouldn't work," she told him. She went home.

He stayed on, photographing what he vowed would be a complete picture of the district. And then he, too, suddenly was gone. He was home in Holland. He had his story, but no editor wanted it. "Too immoral, too stark," they said. The story told itself in pictures. It needed only a few words. He would write them himself and perhaps it would make a book, he reasoned. Book publishers thought so too. *A Love Story in Saint-Germain-des-Prés* appeared in Dutch in 1956, a novel in pictures of people's lives graphically portrayed and told without moralizing or sensationalism.

An autobiographical novel in pictures gleaned from the tremendous number of Van der Elsken's negatives is



VAN DER ELSKEN
right: Singing with the Senegalese. 1953.
opposite page: Students in the Café. 1952.

to be published as *We Wait Till This Door Opens*. It will be preceded by another picture book to be titled *Bagara* gleaned from recent months spent with a tribe in central Africa.

The complete picture book, a story to be read in pictures with a few words merely to indicate direction, is a comparatively new art form in photography. Van der Elsken uses this demanding medium like a novelist, describing a cast of characters, a place, a mood, time, plot, and dramatic development. Van der Elsken's unique picture style appeals long after the story is fully understood, for he does not pose or direct the subjects; there is nothing faked in his story. The camera discloses the many-faceted character of each individual. The writing does not influence the pictures; the text exposes related facts while the pictures disclose the meaning and feeling and are entities in themselves. The result is a book of pictures with some few words of text that function like illustrations in a novel; the pictures carry the story and have a life of their own.

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VAN DER ELSKEN, *below:* A Young Mexican in Love with Her. *1953.*
right: Her Bizarre Beauty Appealed to Artists. *1952.*

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VAN DER ELSKEN
A Pitted Mirror. 1953.

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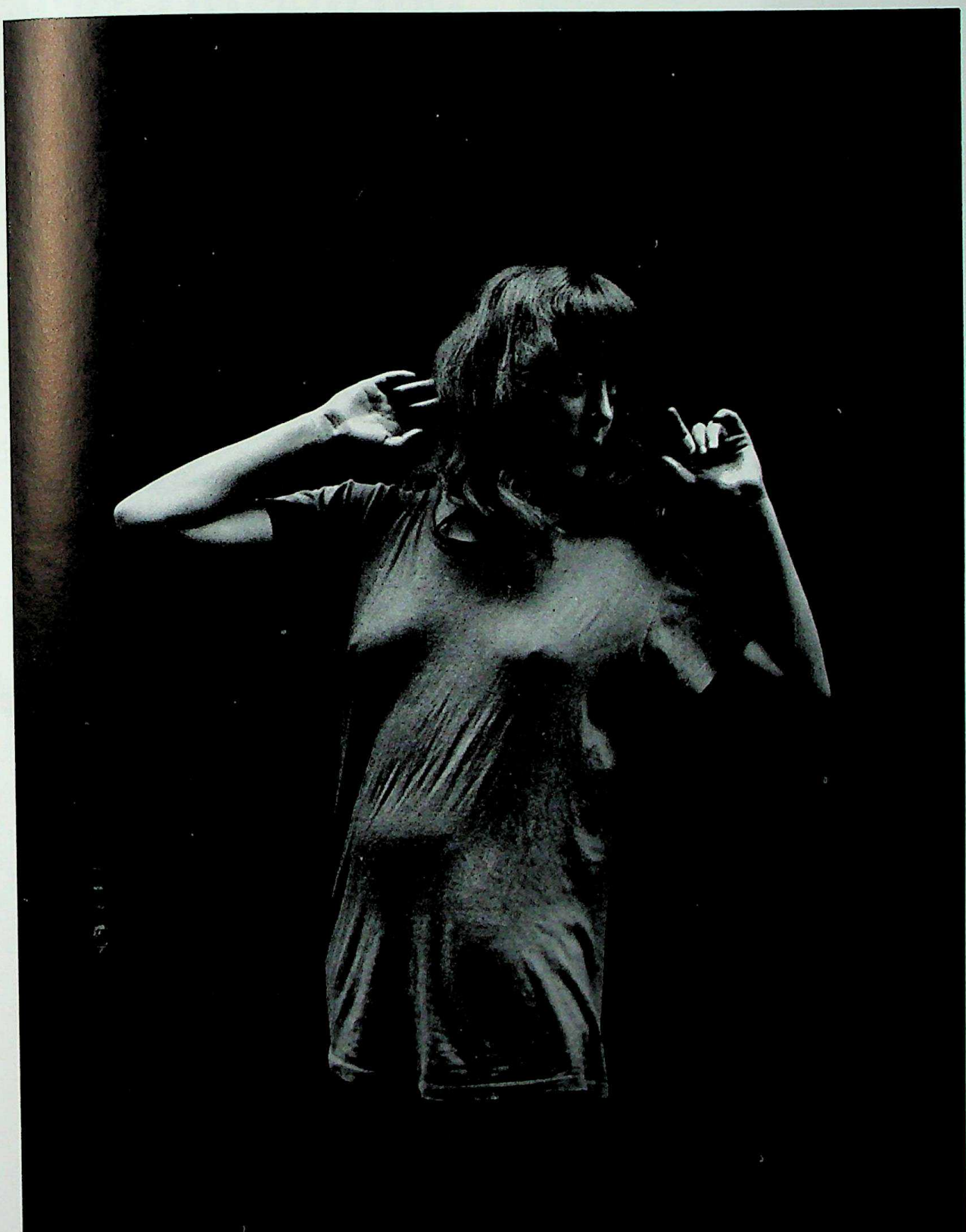
VAN DER ELSKEN
below: "Pregnancy and Saint-Germain-des-Prés Won't Work," She Said, and Left Paris. 1953.
left: Narcissism. 1953.



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36.

Cartier-Bresson and the Human Comedy

HENRI CARTIER-BRESSON is the perfect detective with a camera: the man who never intrudes. He has the extraordinary ability to make himself part of a setting; he belittles himself whenever a subject becomes conscious of him and his camera by saying, "I'm just one of those camera bugs; I won't bother."

It would never enter his head to ask a person to move or pose or to change a setting by adding or eliminating a prop. One time in Texas he and Eliot Elisofon were assigned by *Life* magazine to cover an annual meeting of the American Federation of Arts. Elisofon had a large bronze sculpture moved outdoors, placed in lower-right foreground so that it focused on the ground glass two-thirds of the way up the film. He continued composing by asking a lady wearing a round red hat to sit with back to camera in lower left. Within that designed framework Elisofon waited for a spontaneous action of people who entered the scene, unaware of the camera, to group themselves into a balanced composition, a harmonious color arrangement, and a play of forms that would express the idea of a garden party for art. Cartier-Bresson, fascinated by Elisofon's method, lauded it, but it was contrary to anything he would have done.

Cartier-Bresson searches for the meaning, the essential characteristic of the picture he instinctively sees in front of him. To make sure he sees it as a complete composi-

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tion and not as some superficial charming expression or gesture, he peers through a reversing prism set on top of the ever-present Leica that he uses exclusively. The image is upside down; the bold forms stand out; when these flow into an acceptable composition he presses the shutter. It is by now a reflex action. The entire frame is filled with the picture (he never crops). He sees through the lens as a sniper sees through the telescopic sight on his rifle. Cartier-Bresson has repeatedly said that his right eye looks out onto the exterior world while his left eye looks inside to his personal world. The two obviously fuse into the one eye of the lens. He once wrote about this, "To me photography is the simultaneous recognition in a fraction of a second of the significance of an event, as well as the precise organization of forms that give that event its proper expression."

His is a poignant picture: the camera searches out the joys and sorrows of people everywhere. The immediacy of his seeing makes it possible for him to grasp and record permanently evanescent sights and fleeting emotions as a measure of personal expression. Vision and conception are one; technique never gets in his way. It is by now automatic; he explains that he is no more conscious of changing shutter speeds or f-stops than he is of shifting gears while driving a car. He never uses flash bulbs, for he never can be sure he will get the picture he *sees*. Flash takes its own picture: it flattens space; it disembodies the vision; and the resultant picture is a distortion of the emotions as well as of the photographer's vision. In portraits Cartier-Bresson uses the same silent, unobtrusive method. He waits patiently until the subject stands revealed in the existing light, then he presses the shutter.

Cartier-Bresson is universally respected for his magnificent photoreporting. In 1933 he took his first unforgettable picture: hilarious children chasing a wildly laughing, crippled child on crutches playing in the ruins of a stucco building in Seville. The poignancy of this scene became a characteristic of his clear, unique style; concrete pictures which in their visual poetry command attention and continue to evoke emotional responses even after many viewings. This quality made him one of the world's best known and highest paid photojournalists. Reporter of the human comedy, he is concerned with the typical rather than the unusual, fascinated by people and their natural actions. Dull, unimpressive scenes he conceives as striking pictures. He is not concerned with recording the historical event itself, as most newspaper photographers must be—necessarily they stop the very center of an action to make it serve as an illustration for the day's news. In 1938, when Cartier-Bresson photographed the coronation of George VI, he turned his camera away from the picturesque procession of England's pageantry to search the multitude's anonymous face for human, touching incidents.

He explains that it is a journalist's duty to recognize what is important though he does not know in advance what that will be. Cartier-Bresson's camera is ready to take that picture the instant it takes shape. As the movement unfolds he perceives when all the transitory elements most forcefully form his kind of a photograph. He concentrates on securing a series of dramatic photographs which, coupled with his notes, become a precise account of what took place. He clearly articulates this intention by saying, "Photography implies the recognition of a rhythm in the world of real things. What the eye does is find and focus on the particular subject within the mass of reality, what the camera does is simply to register on film the decision made by the eye."

He finds his pictures at eye level; fish-eye and bird's-eye perspectives he considers odd, tricky angles. The only valid angles, he claims, "are the angles of the geometry of composition," not realizing that valid geometric compositions can be photographed from any angle and that any creative photographer has the freedom to make his own kind of picture. But his rules, he has persistently said, apply only to himself, not to others.

Cartier-Bresson has circled the earth many times; he and his wife, a Javanese dancer named Ratna Mohini, whom he married in 1937, seem at home anywhere. He has discovered great photographs in all parts of the world. The Far East and Europe, however, yield more penetrating pictures for his camera than the United States. He seems more attuned to ancient civilizations, to the incongruities inherent in the extremes of society, and to buildings and streets that have withstood millenia of treading feet. His book *The Europeans* attests to this keen rapport with his people, as does, in a lesser way, his book, *The Russians*. In his earlier volume, *The Decisive Moment*, the panorama he captured of China, Java, India, and North Africa, is more penetrating and more convincing than his pictures of the States. Some of his finest photographs appear in these volumes and in his *From One China to Another*, in which he traces pictorially the last changing days of the old regime and the beginnings of Communist China. In the tradition of Emerson, Stieglitz, and Adams, but without their vehement demands for fine reproduction, Cartier-Bresson believes in publishing his photographs in book form to attract the widest audience possible for his work.

Through these books and through traveling exhibi-

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tions of his photographs more people have seen his work than that of almost any other photographer. A retrospective exhibition, consisting of four hundred photographs encompassing the years 1930 to 1955, opened in the Louvre in Paris (destroying a century of official prejudice held against photography) and has since been circulating in major museums on both hemispheres.

Cartier-Bresson's original intention was to become a painter. In 1928, at the age of twenty, he studied painting with André Lhôte; the next year pursued it further in Cambridge, England, where he added the study of literature. The year 1930 he spent in the West African bush, where he contracted blackwater fever and began his lifetime interest in photography. While recuperating in Paris in 1932 he acquired a Leica, which became, he wrote, "the extension of my eye." He traveled with it to Poland, Germany, and Italy, testing what he could do with the camera, making himself master of its very response. The results of this trip and his next year's travel in Spain he showed in his first exhibition, held in Madrid and later shown in New York.

In 1934 he joined an expedition for a year's travel in Mexico where he held a joint exhibition with Mexico's Alvarez-Bravo in the Palace of Fine Arts. The succeeding year he shared gallery space with Walker Evans in a two-man exhibition which presented their personal styles as documentary photographers. Then followed his first sojourn in the States, the year he discovered Harlem, Brooklyn, and Coney Island.

He returned to France to make his first moving picture with Jean Renoir. In 1937 he took the documentary film, *Return to Life*, depicting medical aid to hospitals during the Spanish Civil War. The same year he photographed in the south of France with Robert Capa and David Seymour (Chim) who were to become organizers of Magnum Photos with him a decade later.

Cartier-Bresson entered the French Army in 1939, just after completing another film with Jean Renoir. As a corporal in the army's film and photo unit he was taken prisoner by the Nazis at the collapse of France. For the next thirty-six months he was a prisoner of war, escaping succesfully only after the third try. He reached Paris and, for the balance of the war, served in the Underground assisting ex-prisoners of war. He organized French press photographers to cover the occupation and the retreat of the Nazis after liberation. Immediately after World War II ended in Europe, he resumed work as a cameraman for the United States Office of War Information, filming the return of war prisoners to France.

In 1946 he came again to New York, to attend the first comprehensive exhibition of his work held at the Museum of Modern Art. He stayed here for the ensuing twelve months, traveling throughout the nation to acquaint himself with the immense pictorial canvas of the country. On his return to Paris he and his two good friends, Capa and Chim (both of whom were to die in war—Capa in Indo-China and Chim in Egypt—while pursuing stories for Magnum) founded the independent photo agency Magnum Photos. Magnum is owned as a cooperative by its outstanding photographers, who supply illustrated journals and magazines of all the world with single photographs or complete picture essays. Cartier-Bresson has had to take the position of president of Magnum Photos since the death of Chim, who held that office when he was killed.

For Magnum, Cartier-Bresson has taken all kinds of picture stories, including specific assignments for *Life*, *Picture Post*, and *Paris Match*. The quality of his work continues to develop as his vision and understanding of humanity deepen with the passing years. He sums up his belief in photography by saying, "For me, content cannot be separated from form. By form I mean a rigorous organization of the interplay of surfaces, lines, and values. It is in this organization alone that our conceptions and emotions become concrete and communicable. In photography, visual organization can stem from a developed instinct." Photography to the modest, unassuming Cartier-Bresson is a way of life, a creative mode of expression in which he can record the story of man with uncanny awareness, sympathy, and poetic imagination.

All photographs in this chapter from The Decisive Moment, *by Henri Cartier-Bresson, published by Simon and Schuster, Inc., New York, courtesy the photographer and Magnum Photos, New York.*

HENRI CARTIER-BRESSON, Allée du Prado, Marseille. 1932

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CARTIER-BRESSON

below: Gestapo Informer Accused. *Dessau, Germany, 1945.*
left: Place de l'Europe, Paris. 1932.

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CARTIER-BRESSON, *above:* Day at the Races. *Hong Kong, 1949.*
right: Coronation of George VI. *London, 1938.*

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CARTIER-BRESSON, Two Prostitutes' Cribs.
Mexico City, 1934.

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CARTIER-BRESSON, Tea House in Peking.
China, 1949.

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CARTIER-BRESSON

above: Moslem Women Praying. *Kashmir, 1948.*
left: Rats of the Grave. *Luxor, Egypt, 1950.*

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CARTIER-BRESSON
Sunday on the
Banks of the Marne.
1938.

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37.

Yousuf Karsh—Faces of Destiny

Yousuf Karsh, in his powerful portraits, transforms the human face into legend. Future historians covering the period between World War II and Sputnik II will turn for illumination to the perceptive, psychological portraits Karsh has made of statesmen, scientists, and artists whose faces have changed the face and tastes of the world.

A superb photographic craftsman, Karsh fills his portraits with multiple meanings that yield their full import only upon continued, concentrated observation. His terse and intimate characterizations convey insight into the subjects' will power, leadership, creative intensity, or spiritual stature. Although the image remains faithful to objective reality, through emphasizing features, hands, or body Karsh achieves a visual idealization as well as an expressive interpretation of the subject's character.

Karsh composes each photograph carefully paying as much attention to background as to modeling the structure of the face and figure with light. The portrait is organized within the picture space. A dominant feature becomes the focal point, drawing the spectator's eyes through the composition and back to the objective center. The lighting appears natural, but number and sizes of light sources are carefully considered so that the subject seems to sit in the diffused atmosphere of a courtyard lit by beams of unblinding sunlight. Each part of the picture is harmoniously linked by a balanced relation-

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ship of forms and masses, of dark areas and areas of light.

Karsh does not use decorative sweeps of drapery or painted props for backgrounds. He creates the proper background with light, and correlates it with the clothes worn by his sitter. In his photographs of Nehru, Sibelius, and Marian Anderson, the subject detaches itself to become a strongly framed light mass isolated by contrast from the dark costume worn, and from the solid black background. In his photographs of Shaw and Churchill, Karsh achieves space and depth through highlighted areas made effective by the position of head and hands, clothes and accessories.

Karsh seems to follow the precept of Goya, who wrote, "I see [in nature] only forms that advance, forms that recede, masses in light and shadow." This play of forms Karsh achieves purposefully through subtle modeling of the dominant characteristics he finds in the uneven human face.

There is no academic, repetitious formula to his work. In *Faces of Destiny*, published by Ziff-Davis at the close of World War II, his versatility is evident. His photographs clearly reveal the diverse attitudes and personalities of the men who brought the Allies to victory; they convey effectively strength of purpose, intellectual breadth, and sense of power.

When asked about his method of capturing the greatness, the individuality of each sitter, Karsh declared, "I have tried for years to define for myself the ingredients of successful portraiture, but it defies definition . . . Though perception of what is right must be instantaneous, continuous practice does not make portrait photography a matter of near automatic perfection."

Karsh's masterful technique can create but superficially what does not exist in the subject's character. His portrait style applied to financial giants has resulted in overdramatized, brilliant photographs of apparent outer strength without the concomitant inner force.

To secure a portrait Karsh will travel halfway across the globe to spend sometimes only one hour in productive work with his subject.

When he flew to Finland to photograph the distinguished composer Sibelius, Karsh took with him his 8 x 10-inch camera and hundreds of pounds of equipment, only to find the electric current available was insufficient. Until permission from the authorities was secured to tap the main line, Sibelius regaled Karsh with stories told with infectious gaiety. Karsh's lens probed to find the image, a divine mask with eyes closed that reflected the spirit and genius of the venerable composer.

Karsh photographed Einstein in his little study at Princeton's Institute for Advanced Study. A verbatim record of Karsh's questions and Einstein's answers demonstrates Karsh's technique of drawing the subject into realms of profound thought until he forgets the presence of the camera. Karsh asked, "Are you optimistic about the future of mankind?" Einstein replied, "I cannot say that I am optimistic, but this I will say, that if there is not found in the near future a solution to the security program, then there will be a disaster on a scale unimaginable to us."

"To what source should we look for the hope of the future of the world?" asked Karsh. Einstein answered simply and softly, "To ourselves."

Most people sit for Karsh either in his Ottawa or in his New York studio. Twenty-five years ago, in 1933, he arrived in the Canadian capital, debating with himself whether to study surgery or to open a photographic studio. Karsh was born in the town of Mardin in the Armenian part of Turkey. He was ten years old when the massacres of 1918 ravaged his home town. He escaped a year or two later to find a home with his uncle, a photographer operating in Sherborne, Quebec, where Karsh learned the rudiments of his profession. Later he was apprenticed for three years to John H. Garo in Boston, a fellow Armenian whom Karsh remembers as "a stimulating and inspiring teacher as well as a photographer of distinction." From Boston he moved to Ottawa, where he established his home.

Ottawa grew rapidly and the studio of young Yousuf Karsh grew with it. His skill as a portrait photographer was soon recognized by Lord Duncannon, son of the governor general of Canada, Lord Bessborough. Karsh was introduced to members of the government, to visiting dignitaries, and also to the Ottawa Little Theatre Group where Karsh met his future wife, the talented actress Solange Gauthier.

Prime Minister W. L. Mackenzie King, a close friend and patron of Karsh, in December, 1941, arranged to have Winston Churchill pause to be photographed immediately after his speech before the combined houses of the Canadian Parliament. Karsh was given two minutes to take one shot. Churchill entered and stood impatiently, smoking a freshly lit cigar. Karsh, who had no intention of including the cigar in the portrait, walked up to him and said, "Sir, here is an ashtray." Getting no result, he said, "Pardon me," simultaneously taking the cigar from Churchill and snapping the shutter. Churchill walked over, shook hands, and remarked, "Well, you can certainly make a roaring lion stand still to be photographed." Eleanor Roosevelt, when she heard of

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the incident, commented, "It must have been Churchill's first major defeat."

This was the picture that made Karsh famous. Published again and again, it became a symbol of England's will to fight. The strength and power of Churchill's face stiffened the resolution of the English people, who were then bearing the full weight of Nazi bombings. The people loved the photograph; it was easy to imagine Churchill's stirring speeches issuing from this indomitable face.

At the request of the Canadian government, Karsh went to England to take a series of photographs that included King George VI and Lord Beaverbrook, who said, "Karsh, you have immortalized me." *Life* magazine assigned him to photograph American war leaders; one of an unsmiling, determined General Eisenhower was as effective for the pursuit of the war as the picture of Churchill.

Since the war's end, leaders of the mind and the spirit, creative people in all fields, have claimed Karsh's interest. To his gallery of statesmen, military men, and royalty he has added artists, architects, scientists, humanitarians, and musicians. Karsh, with his keen sense of judgment, seeks the intrinsic character of his subject. He caught the expression on Marian Anderson's face just as she finished humming her favorite spiritual "The Crucifixion." The audacious George Bernard Shaw said to Karsh, "Armenian? Good. I have many friends among the Armenians. To keep strong and healthy they should be exterminated every little while." Frank Lloyd Wright, another magnificent egocentric, disapproved violently of everything Karsh was doing, but invited him to Taliesen to take his picture in his Wisconsin home.

When Karsh photographed President Franklin D. Roosevelt, he clicked a gadget attached to his camera that made it appear that he had tripped the shutter. Roosevelt relaxed; then Karsh really took the picture. He used the same procedure with Lord Tweedsmuir and occasionally with other famous personalities.

Karsh writes of his profession, "If there is a driving purpose to my work, it is to record the best in people and, in so doing, remain true to myself. . . . It has been my good fortune to meet many of the world's great men and women. People who will leave their mark on our time. I have used my camera to portray them as they appeared to me and as I felt they have impressed themselves on their generation."

Karsh's great photographs of them will impress future generations, who will know through his artistry the look of the celebrated persons of this period of history.

All photographs in this chapter copyright Yousuf Karsh, Ottawa.

YOUSUF KARSH, Winston S. Churchill. *1941.*

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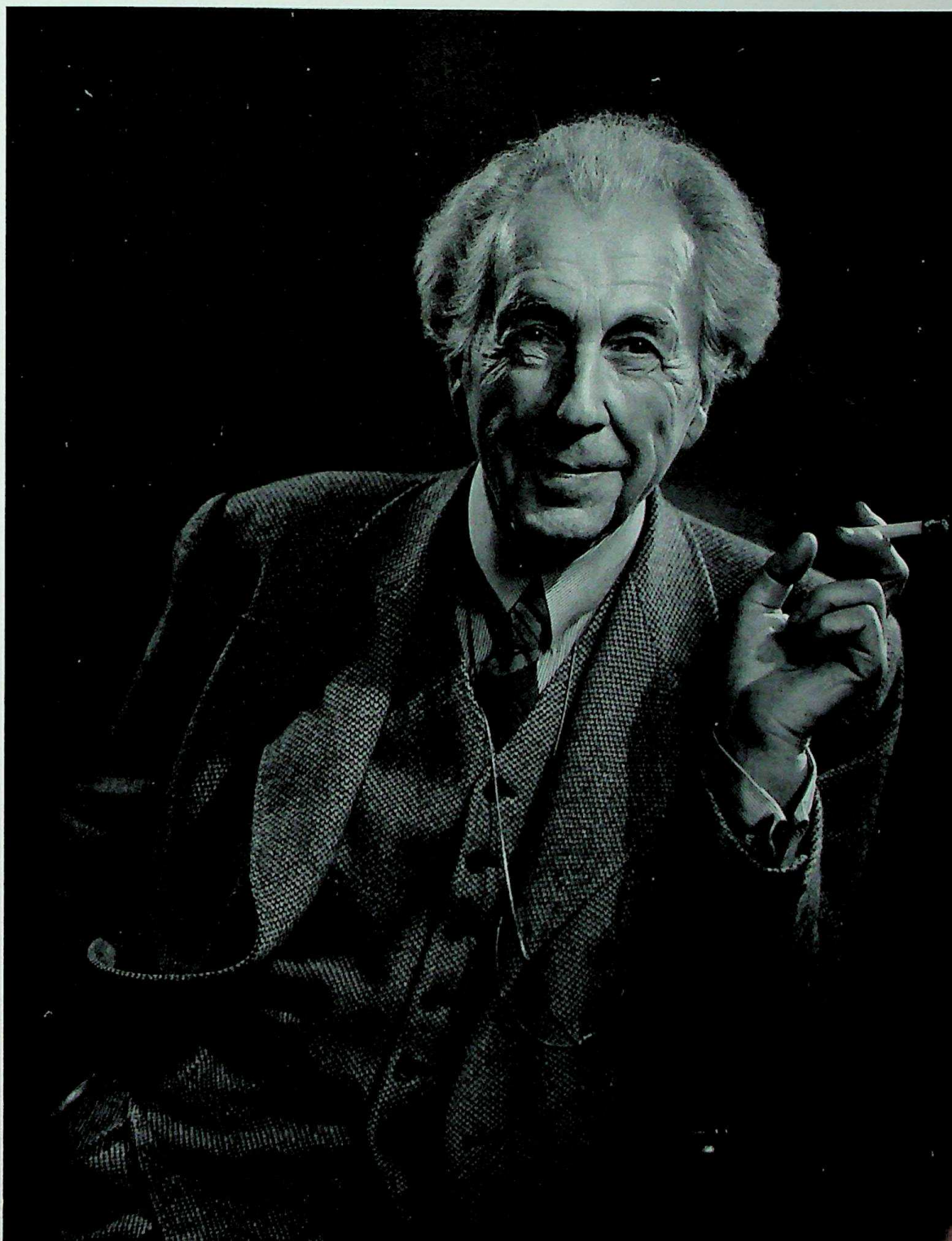
KARSH, *below:* Frank Lloyd Wright. *1945.*
left: Jan Sibelius. *1949.*



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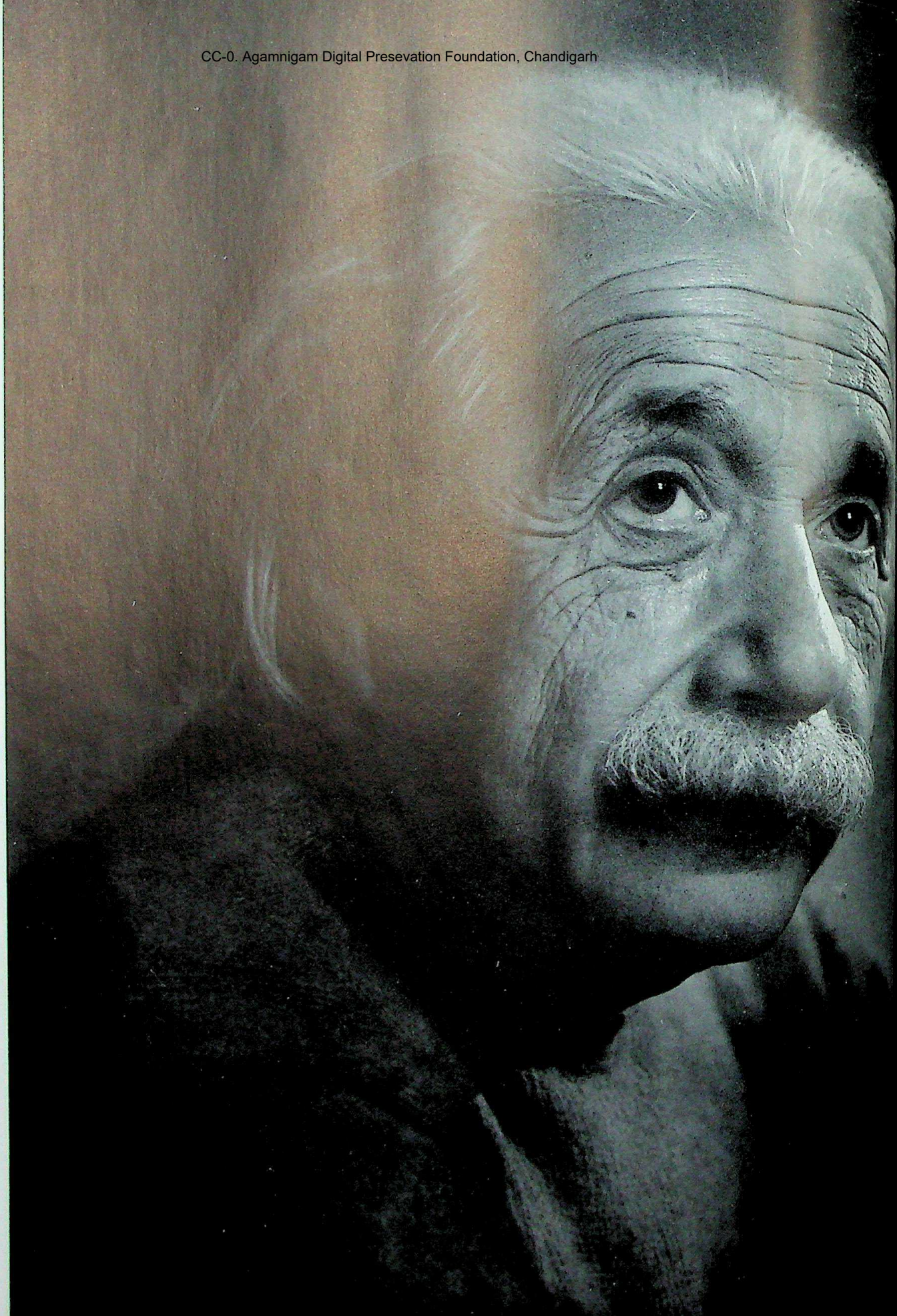

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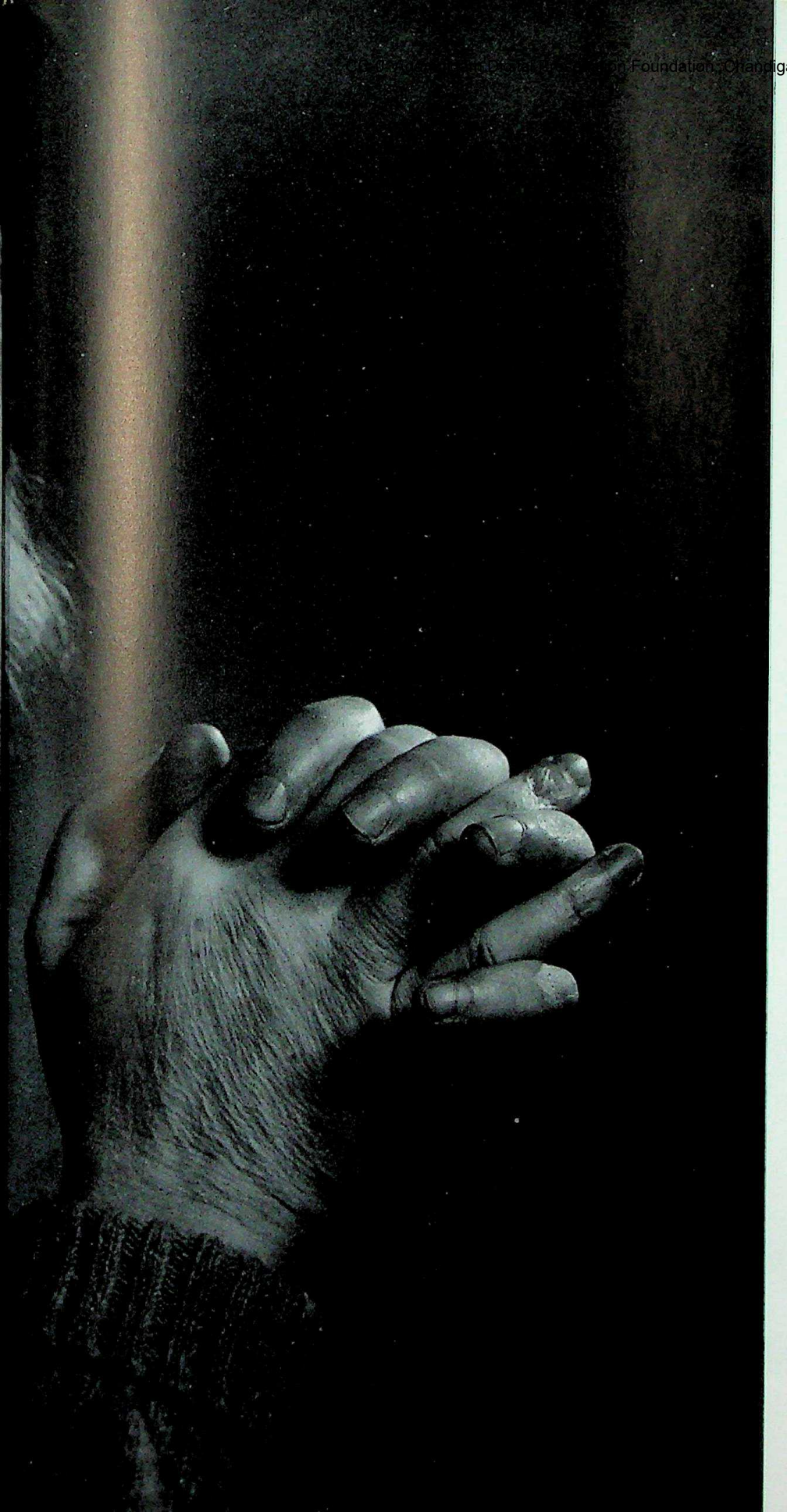

KARSH, Albert Einstein. 1948.

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KARSH, Jawaharlal Nehru. *1949.*

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KARSH, Marian Anderson. *1948.*

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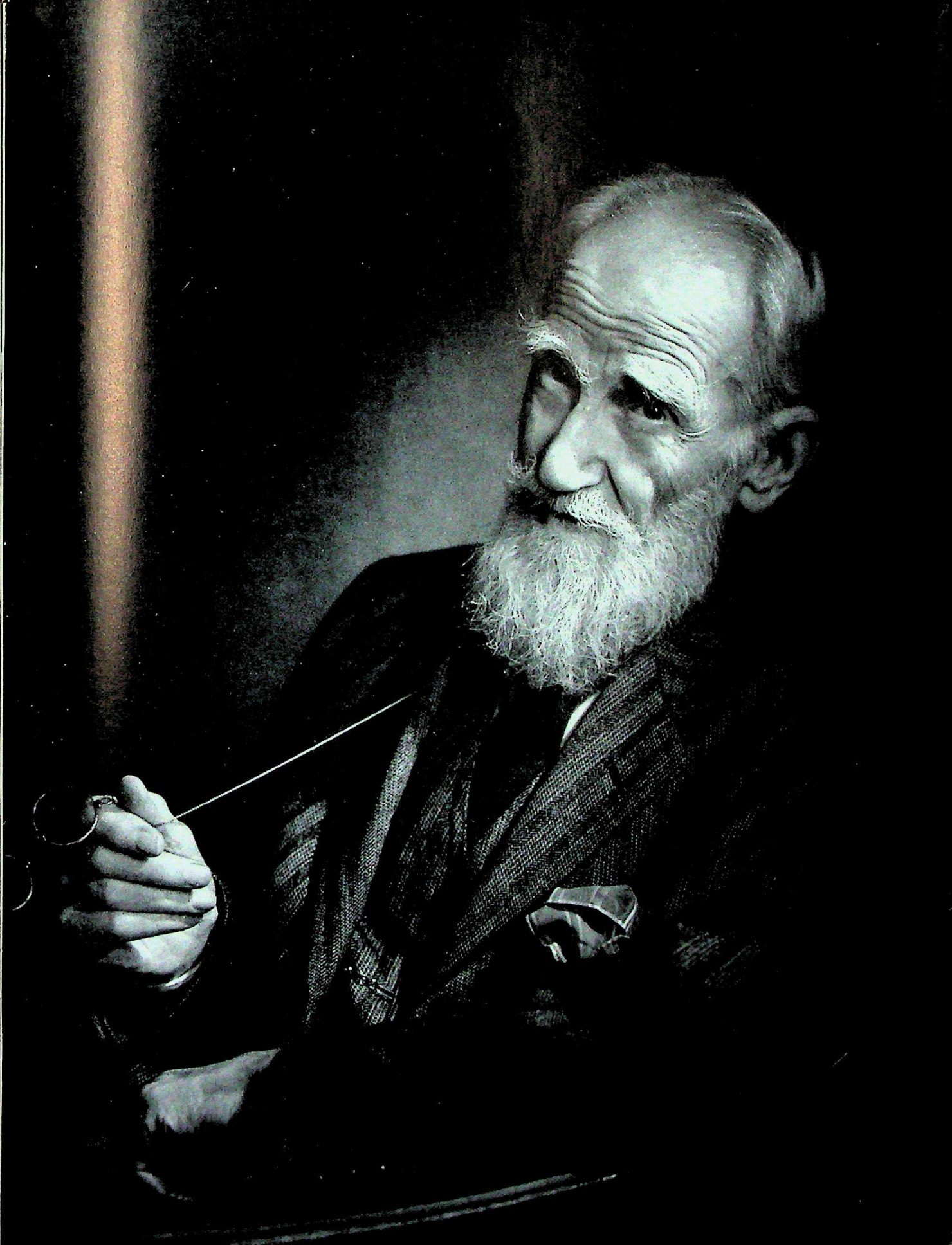
KARSH, *above:* Queen Elizabeth II. 1951.
right: George Bernard Shaw. 1943.



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PART FOUR

Photography Today

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38.

Color: Another Dimension

"I HAVE TRIED TO EXPRESS the terrible passions of humanity by means of red and green," wrote Van Gogh in discussing his *Night Café*. "The room is blood red and dark yellow. The color is not true from the realist point of view; it is a color suggesting some emotions of an ardent temperament."

Such an attitude toward color is coming to the fore among practitioners of the infant art of color photography. This art came into being a few years after the end of World War II when a new type of color film enabled still photographers, for the first time, to process their own color negatives and print their own color positives as quickly and simply as, previously, they had processed black-and-white. From then on, creative photographers could explore the possibilities of controlling images through using color in novel, imaginative, and often, non-realistic ways.

For three-quarters of a century before the advent of the new film, color processing was specialized and laborious. Taking a color photograph required three separate negatives, and making a color print on paper required the conversion of three black-and-white negatives into three layers of dyed gelatine, which were assembled in register. The bewildering mass of chemicals and methods kept the great masters of black-and-white photography from turning their talents toward color; they made

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only a few color photographs. Color photographs, accordingly, belonged almost entirely to the realm of technical and applied photography. They were used in scientific work, advertising, and color reproduction. And all color theory, practical color photography, and color printing had as their most important aim the reproduction of natural color literally and faithfully.

All color photography is based upon the principle that every hue can be rendered by a combination of only three "primary" colors. Practical use of this principle was made in the eighteenth century, when inexpensive color mezzotints, after well-known paintings, employed combinations of three basic colors. In 1855, James Clerk Maxwell anticipated color photography by pointing out that primary colors in light could be combined in this manner; in 1861 he projected an image of a tartan ribbon on a screen where three component color images were superimposed. In 1868 Louis Ducos du Hauron in Paris outlined a number of techniques for producing color photographs on paper. These formed the basis for color photography until 1930, when Mannes and Godowsky developed for the movies the Kodachrome method of producing a positive transparency on a single film. In 1938 Kodachrome film and the similar Agfacolor, invented almost simultaneously in Germany, became available to still photography. It was then that the use of color film became widespread, although both Kodachrome and Agfacolor had to be returned by the photographers to the film manufacturers for complicated processing, which involved development, re-exposure, dyeing, and bleaching of all three sensitive coatings on the film. It was Mannes and Godowsky again who invented the reversal film, Ektachrome, which permitted photographers to do their own color-processing, becoming generally available in 1950.

Color photography brought a new impact to advertising and made reproduction of the world's art universally available. In science, color extended the investigative range of photography: what in black-and-white might be identical grays, in a color photograph might resolve into a purple and a green, providing differentiation beyond the possibility of the more limited medium. Color photography in science has also produced effects that are pictorially startling, for example in the recording of the complicated color patterns created when crystals are subjected to polarized light. Color photography with infra-red filters transforms the familiar world into a glowing pattern of reds, yellows, browns, and blacks, revealing nature in unexpected ways, and especially useful in the detection of camouflage.

Some of these unusual visions of science may have provided inspiration to the creative photographer, to whom the chief value of color photography does not rest in the quality of literal accuracy but rather in the expressive qualities of the finished picture. This value is independent of the accurate reproduction of natural color although accurate reproduction may on occasion provide new and exciting insights. The colorist with a camera sees and feels a color combination as a play of tones and hues throughout the area encompassed. He relates the psychological and emotional forces of color to his subject, no matter whether the colors are seen in sunlight; controlled by artificial light; achieved through multiple exposures creating overlapping colors; displaced from sharp focus with lenses that change the normal color balance of the spectrum; fused and blurred by shutter speeds that are slow when action is fast; made bright and strong by underexposure or subdued and pale by overexposure.

Most professionals reduce their "palette" and limit themselves to dark tones accented by some few brilliant beams of colored light. The strong dyes of color photography are more insistent than the tempered colors mixed by the painter. A painting serves its purpose as a picture on a wall, whereas a photograph is intended primarily for the pages of a picture magazine. Camera color and the printed page are often, therefore, purposely more compelling in their demands for immediate attention. Ever more vivid color values are sought by magazine and advertising photographers, to catch the reader's eye.

Confident control over end result, the following through of a final decision made at the snap of the shutter, has not been easy to attain. There was first the necessity to learn how to see color as film and lens see it rather than as eyes see it. For example, when the cameraman's purpose is to reproduce nature's colors exactly, he introduces compensations in exposing daylight film under conditions of diffused morning or evening light. He does this because such film is "balanced"—i.e., has been formulated chemically to produce the seen color combination after normal exposure and processing —for bright middle-of-the-day sunlight. Otherwise he may receive a surprise. Surprises, in color photography, often take such form as the appearance of blue-green where red was expected—a far more startling result than the unexpected shade of gray that may creep into a black-and-white picture.

Conscious control of color accidents, deliberate disobedience of the film manufacturer's traffic rules for the purpose of achieving colors contrary to usual human ex-

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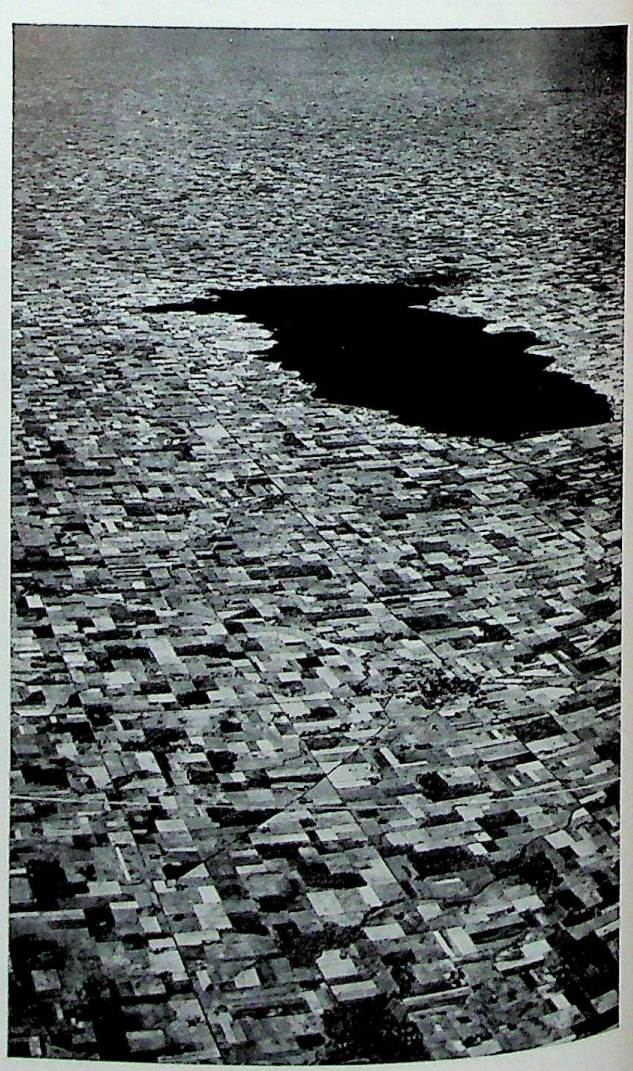
perience, has become part of the technique of a number of creative photographers, such as Ernst Haas, Arthur Siegel, Yale Joel, Irving Penn, and Nina Leen. The overbright color range of the new fast color film is the delight of the amateur seeking ever more realistic snapshots. The marvelous capabilities of the latest automatic cameras and films have deceived many photographers, both amateur and professional, into believing that literal reproduction is the color camera's major sphere of artistry. The artist-photographer knows this to be untrue.

The national picture magazines have provided an excellent training ground for color photographers, making available to them for experimentation a generous supply of expensive color material. Experience with the new negative-color film is gradually being built there; and it is there that color photography is gradually developing its own standards. The artistry and style of individual photographers are transforming the objects they "see" into a new type of richer visual expression within its own technical limitations and imitating no other medium. Photographers like Eliot Elisofon, Dmitri Kessel, Gordon Parks, and Gjon Mili are now beginning to attain their due measure of importance and appreciation for their color work along with the universal acclaim received by them and similarly talented photographers for their prints in black-and-white.



right: Infrared black and white film penetrating haze shows hundreds of square miles from 20,000 feet. Black spot is a lake. Courtesy United States Air Force.
opposite page: Camouflage detection with color film and infrared filter, in Korea, 1955. Living greenery appears red, dead vegetation such as thatched roofs shows up dark. Courtesy Life Magazine and United States Air Force.

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below: ERWIN BLUMENFELD, Third Avenue El. *1951. From* The Art and Technique of Color Photography, *edited by Alexander Liberman. Courtesy Condé Nast Publications, Inc.*
left: BRADLEY SMITH, Lubricants Measured in Viscosity Tubes. *1957. Courtesy* The Lamp, *Standard Oil Company of New Jersey.*

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ELIOT ELISOFON, *below:* Decorated Man in New Guinea. 1957.
left: Ritual Yam Dance, Santa Cruz Island, South Pacific. 1957.
Both, courtesy Life Magazine, copyright Time, Inc.

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above: GORDON PARKS, Fashion in Times Square. 1956.
left: ELISOFON, Bather in Tahitian Rapids. 1955.
Both, courtesy Life Magazine, copyright Time, Inc.

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below: PARKS, Golden Train, New York City. *1956.*
Courtesy Life Magazine, copyright Time, Inc.
right: HERBERT MATTER, The House Painters. *1951. From* The Art and Technique of Color Photography, *edited by Alexander Liberman.*
Courtesy Condé Nast Publications, Inc.

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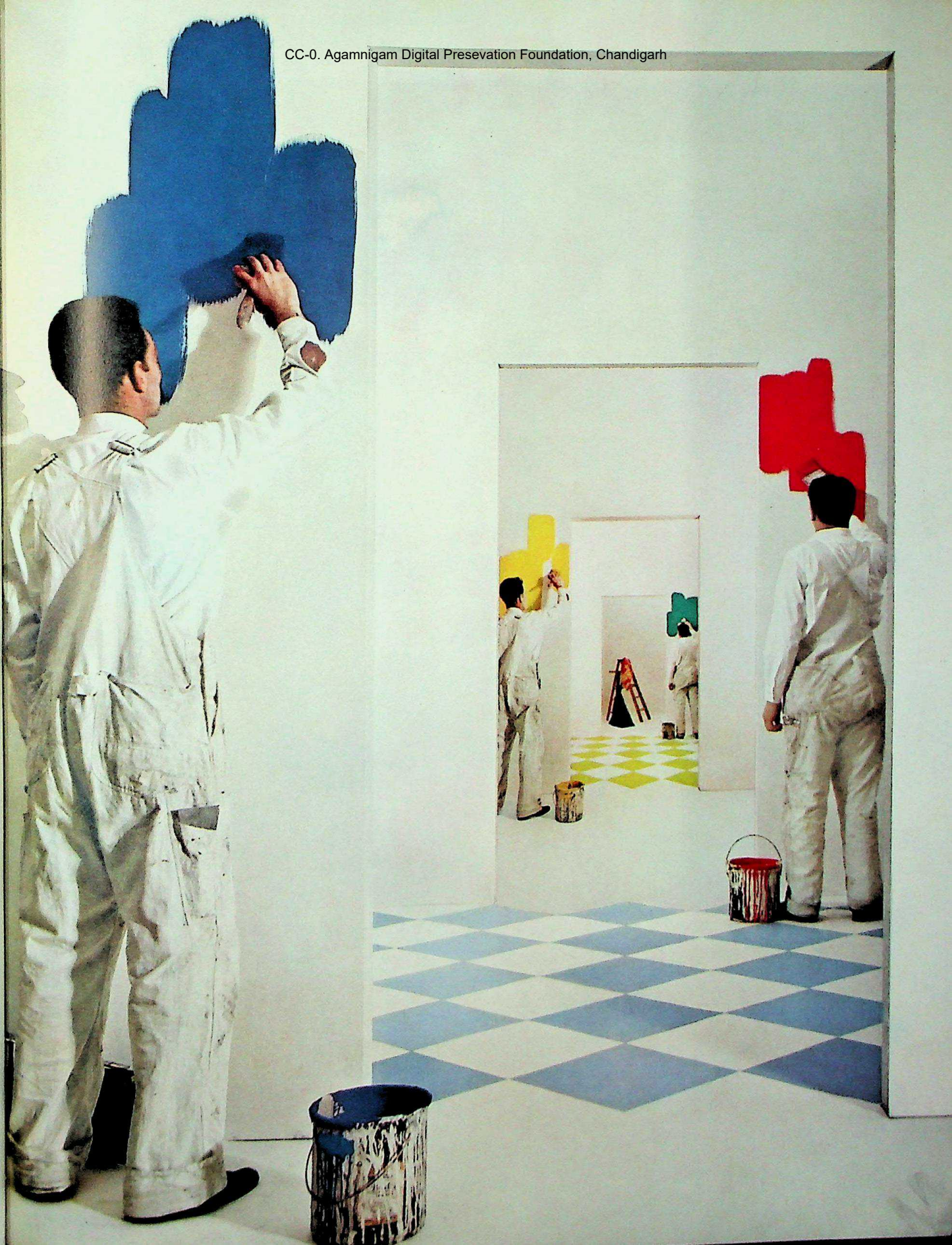

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YALE JOEL, Flow of Muscular Movement. 1958. *Courtesy Life Magazine, copyright Time, Inc.*

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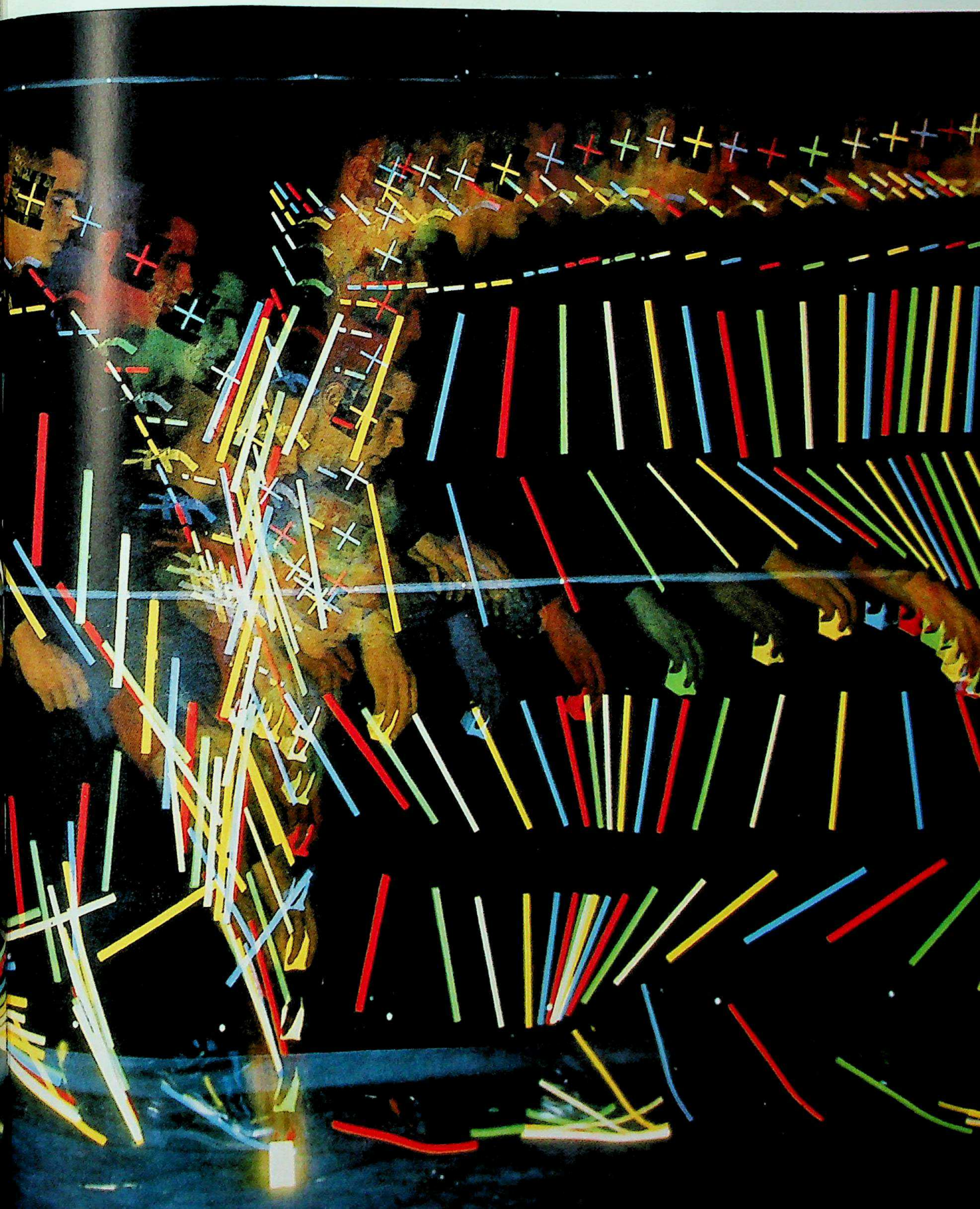

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ERNST HAAS
below: New York in Late Afternoon Sun. 1953.
right: Broadway Sign Painter. 1953.
Both, courtesy Life Magazine and Magnum Photos, New York.

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HAAS, *above:* Geometry in the U.N. Building. 1953.
left: Manhattan Spires from Brooklyn Junkyard. 1953.
Both, courtesy Life Magazine and Magnum Photos, New York.

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below: HAAS, Window Reflections on Third Avenue in New York. 1953. *Courtesy Life Magazine and Magnum Photos, New York.*
right: WALTER BENSER, Unusual Perspective in the Mid-East. 1956. *Courtesy Modern Photography.*

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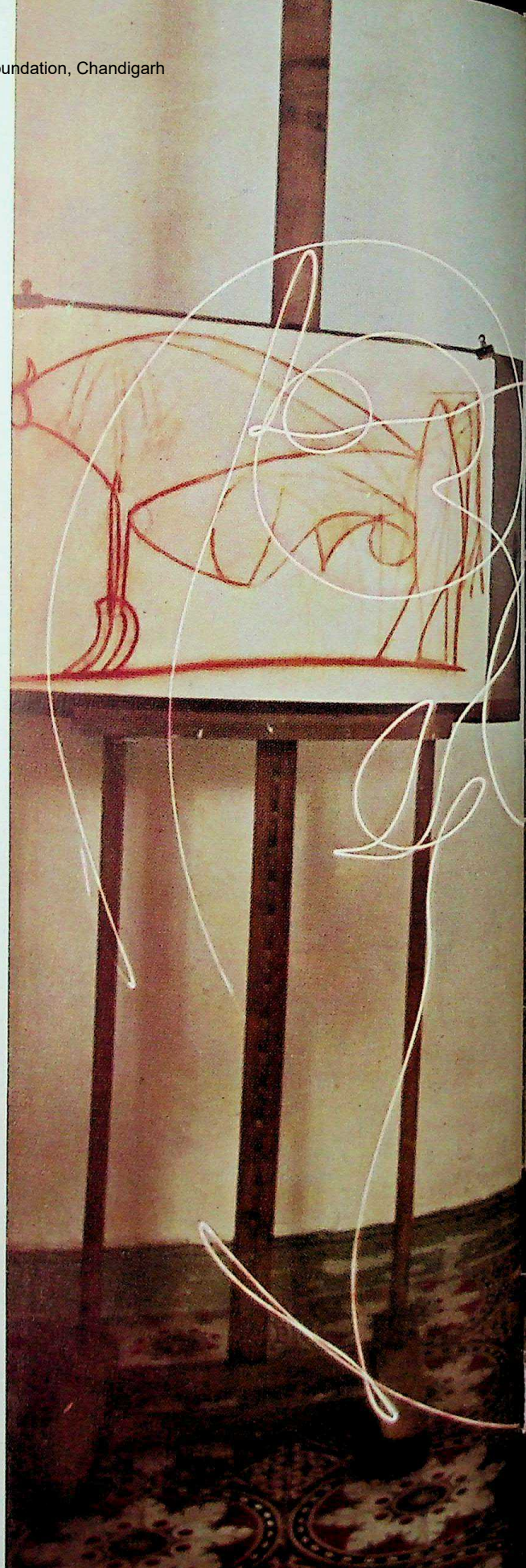

GJON MILI, Picasso Drawing With Light. 1951.
From The Art and Technique of Color Photography, *edited by Alexander Liberman. Courtesy Condé Nast Publications, Inc.*

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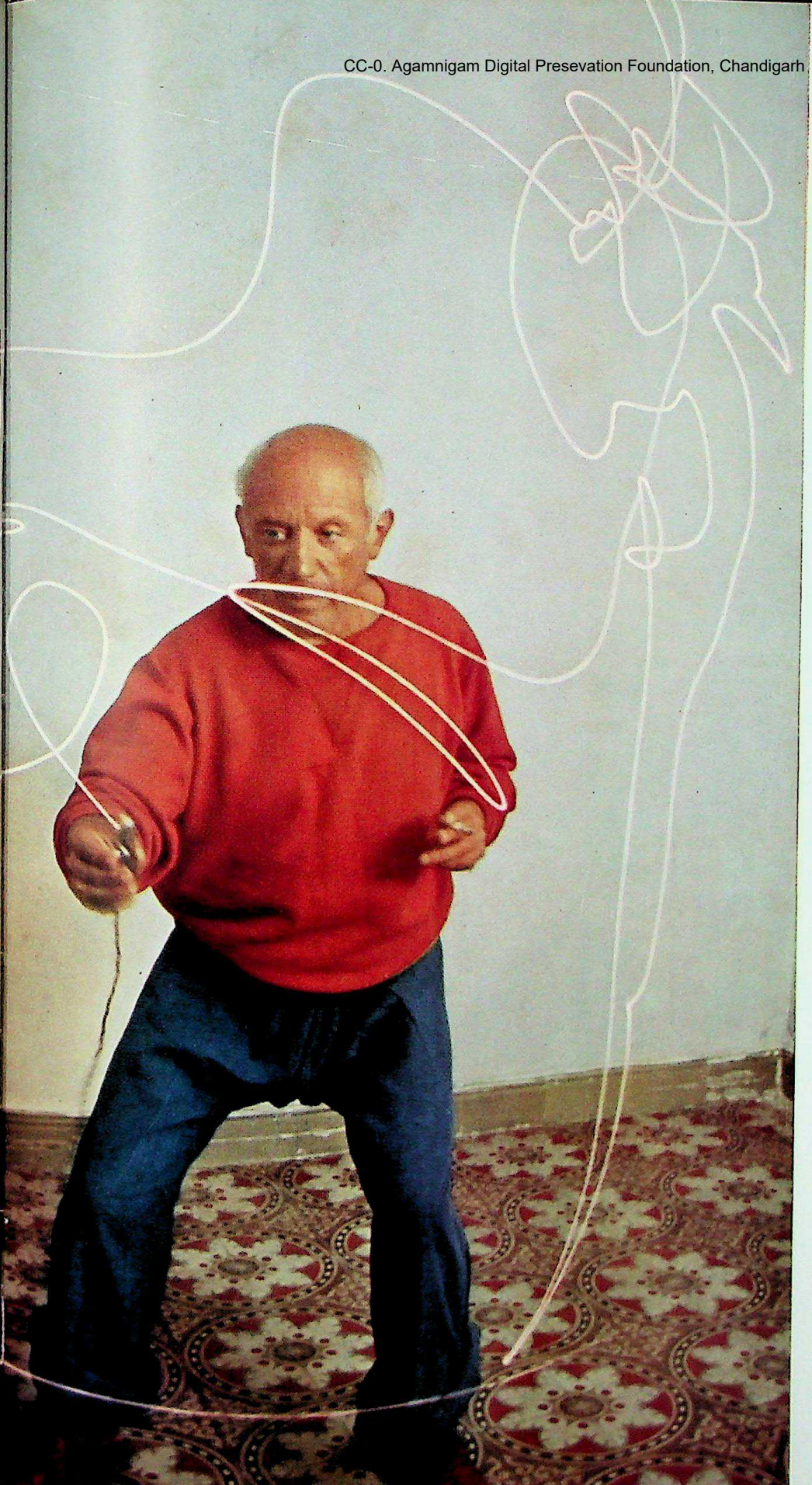

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MILI, Carmen Jones, 1951. *From* The Art and Technique of Color Photography, *edited by Alexander Liberman. Courtesy Condé Nast Publications, Inc.*

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NINA LEEN, Ghostly American Legend. 1957.
Courtesy *Life Magazine, copyright Time, Inc.*

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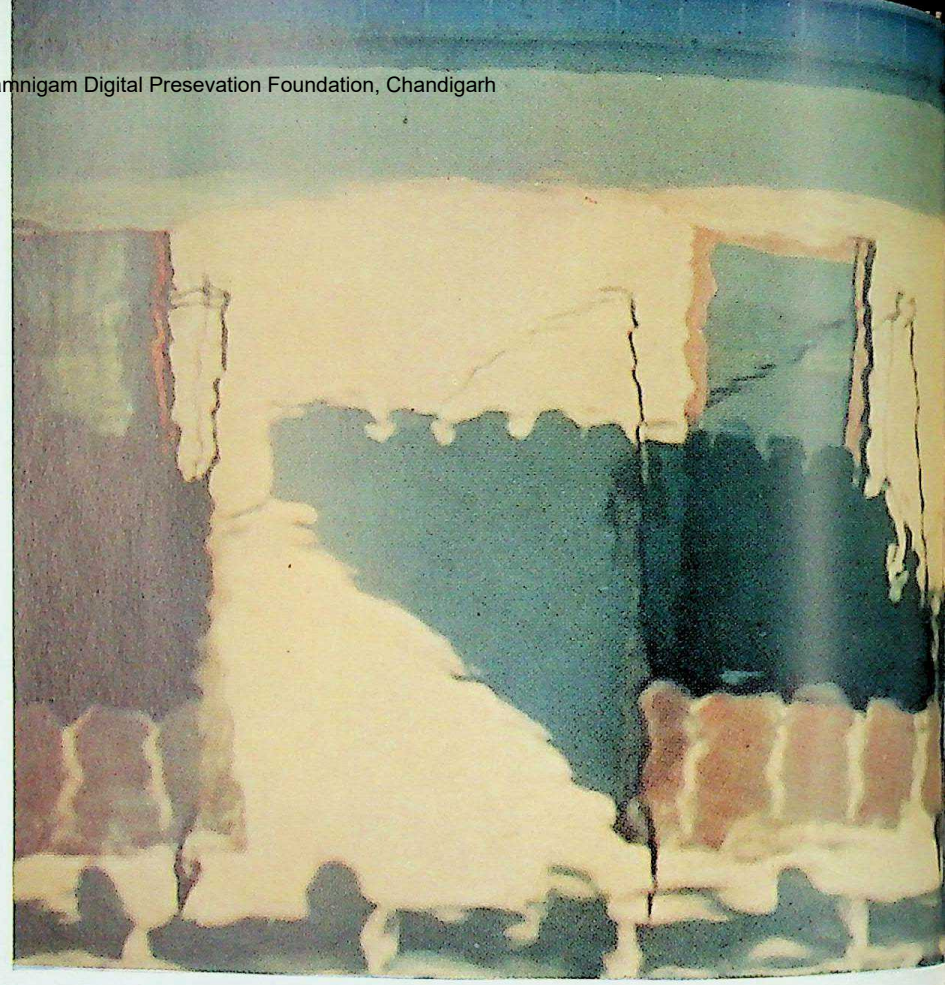

ARTHUR SIEGEL
Four Variations of Reflections in Water.
1950. *Courtesy Life Magazine.*

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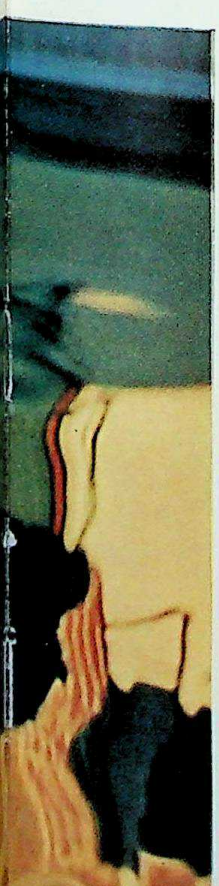

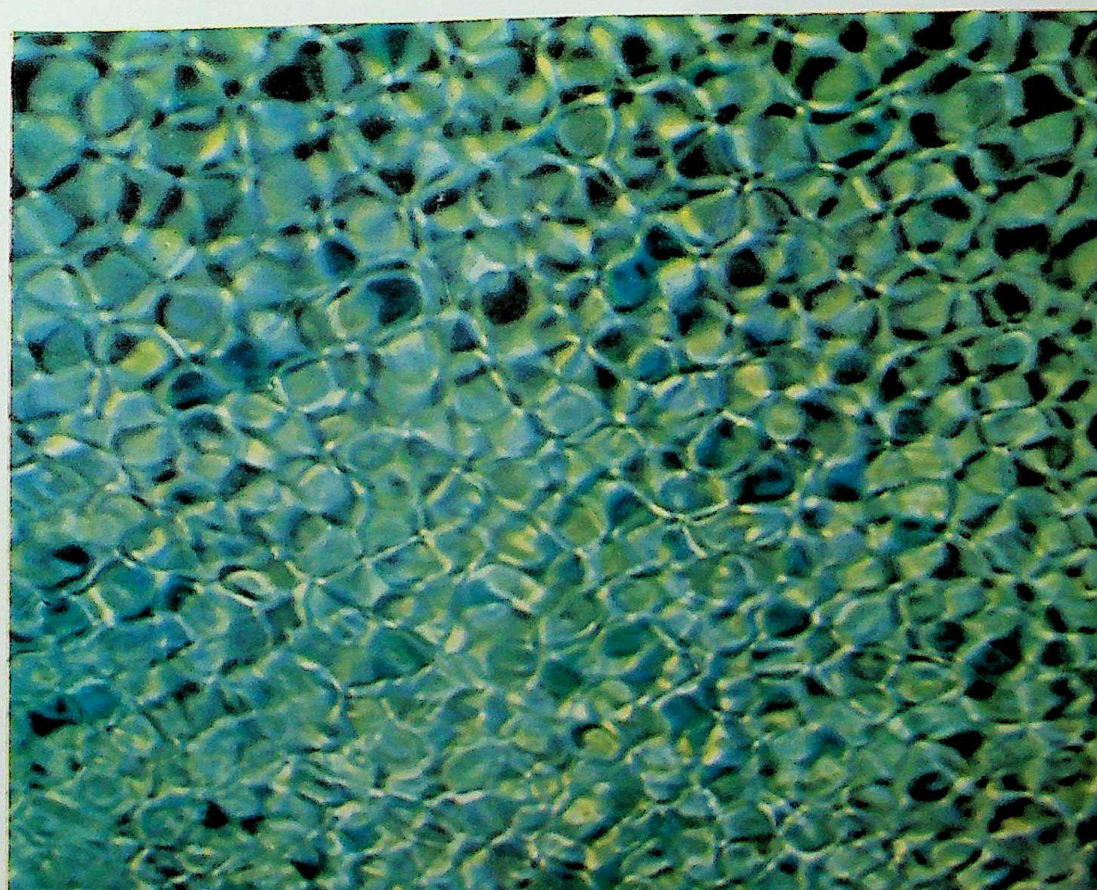

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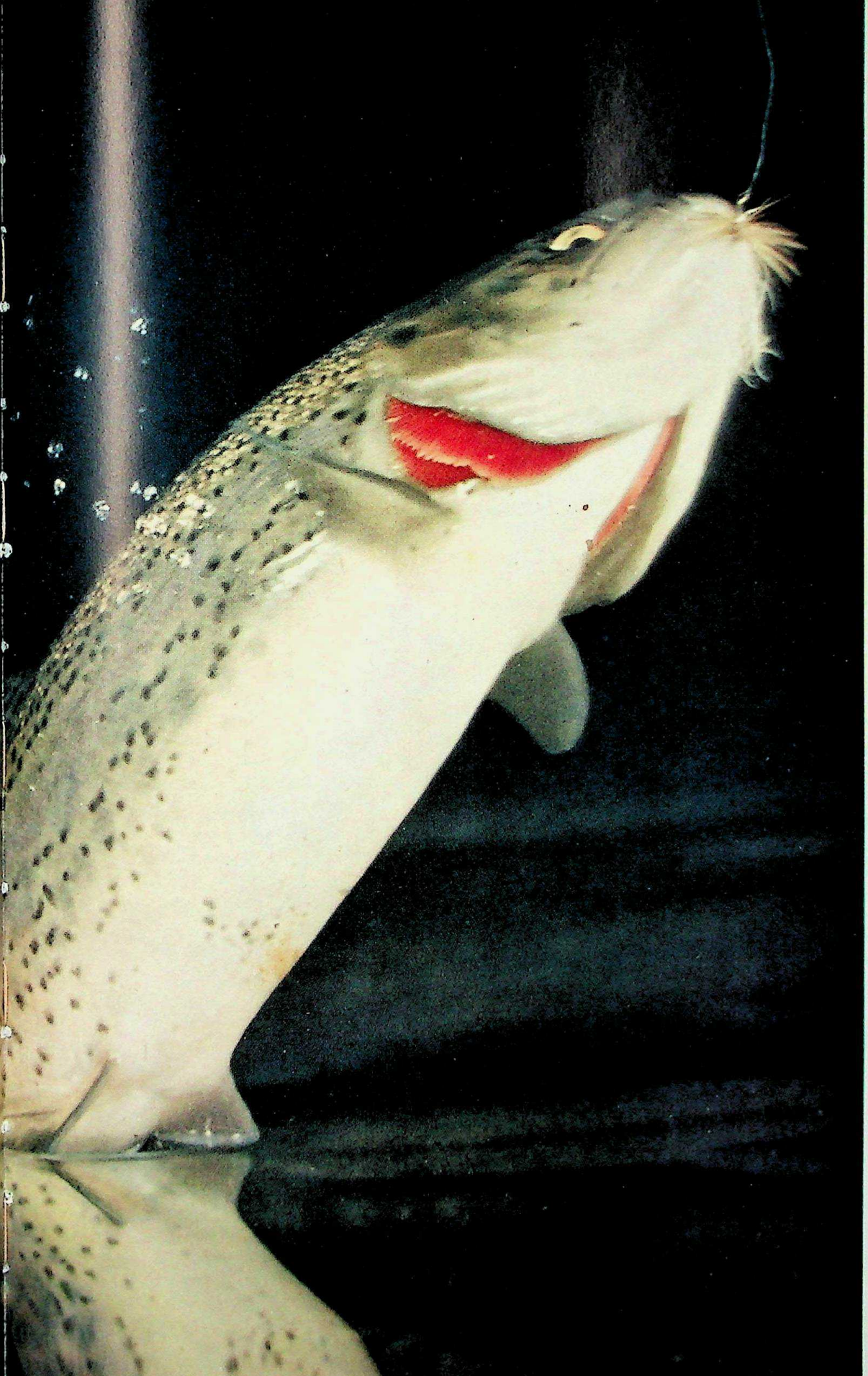
WALLACE KIRKLAND, Trout Snaps Fly. 1952.
Courtesy Life Magazine, copyright Time, Inc.



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above: DMITRI KESSEL, Battle of Hastings Landscape. *1956.*
left: HOWARD SOCHUREK, Twenty Minutes After Sundown at 40,000 Feet. *1956.*
Both, courtesy Life Magazine, copyright Time, Inc.

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above: ALBERT FENN, Two Icebound Tankers. *1957.*
right: KESSEL, In the Old Temple, Bangkok. *1951.*
Both, courtesy Life Magazine, copyright Time, Inc.

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below: IRVING PENN, Bullfight in Barcelona. *1951*.
right: CECIL BEATON, Martita Hunt as the Madwoman of Chaillot. *1951*.
Both, from The Art and Technique of Color Photography, *edited by Alexander Liberman. Both, courtesy Condé Nast Publications, Inc.*

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39.

Extending the Range of Human Vision

PHOTOGRAPHY HAS NOT ONLY GIVEN US powerful new forms of art but has found many applications in science, industry, and commerce. There it has revolutionized communications, deepened and broadened scientific research, and created new institutions of society. This process began early, for photography for practical use is as old as photography itself. Blueprints reproducing the drawings of engineers and architects were used by builders and manufacturers more than a century ago. At the same time, astronomers attached cameras to celestial telescopes in order to photograph the heavens.

Today, the extent of the photographic enterprise exceeds the wildest predictions of photographic pioneers. Processes of photomechanical reproduction of pictures sometimes rival the original photographs themselves in clarity, detail, and range of tone. Often, whole publications—text, pictures, everything—are printed by photographic means; and the printing types employed are set photographically on film rather than mechanically in metal. We photograph sounds, the paths of nuclear particles, the pattern in space traced out by dancers' feet. With wide-angle "bug-eye" lenses—their taking angle is fully 180°—we can sweep our surroundings from horizon to horizon. Using aerial cameras we make maps photographically of cities and countryside, maps so accurate in detail and contour that oil companies buy them by the

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hundreds for use in laying gas and oil pipelines for distances of thousands of miles. We attach cameras not only to telescopes but to rockets soaring into interplanetary space and to bathyscapes plunging into the deepest trenches of the ocean floor.

So advanced is the photographer's arsenal in our time that a magazine photographer slings around his neck a quantity of equipment—in terms of performance—that the great Brady, in the Civil War, could never have carried in a whole train of wagons. Today's photographer may have on his person three or four cameras equipped with color or regular film. To one may be attached a battery-operated stroboscope light that provides brilliant illumination for intervals as small as a millionth of a second. The cameras themselves have lenses of great power—normal, wide-angle, and telescopic. A range-finder coupled to the lens brings the subject into sharp focus within a second or two. A light meter built into the camera frame can, automatically, provide the proper aperture for the selected shutter speed. The flick of a finger can move an exposed frame onward and bring the next unexposed frame into taking position—or, if this procedure is too slow to match the speed of the action being photographed, a spring motor can do the job automatically at the rate of thirty-six frames in a few seconds. Such equipment, it may be noted, is neither rare nor costly. Factory-made and popularly priced, it is sold every day in twelve thousand shops in the United States alone.

Equipment of this kind is used by many thousands of photographers—amateur and professional—engaged in observing the world and in enabling others to observe it, too. This has been going on for quite some time—as readers of this book know, since 1839. Perhaps the greatest contribution of photography has been its transformation of human beings. Photography has given all of us new power to see.

When the first photographs were made, men were accustomed only to the forms of our common perception seen straight ahead from a spot four to six feet above the ground. From time to time, of course, they saw the world from other angles and other distances above or below ground level. However, the images received by the eye are fluid and temporary; the eye tends to pivot and compensate for unusual angles of vision; and unfamiliar impressions are wiped away when men return to normal positions of standing, sitting, walking, and riding.

As one might expect, the camera was at first used to produce familiar images, and was aimed straight ahead at the height of a man's eye. But it was easy—too easy, amateur photographers still discover every day—to use the camera at other angles and from other heights; and the images recorded were not wiped away. They were put down in enduring form; the observer could return to them again and again. When he looked at the pictures made in this manner, he found that something strange had happened: the scale and aspect of the world had changed. The camera could see not only as men see, but in other ways as well. And even though "swings" of lens board and camera back were introduced into some cameras so that they could compensate as the eye does for strange angles, the intellectual and creative possibility of seeing the world differently, via the camera, remained.

The world, for example, could be seen as a child sees it. Each of us, at one time, viewed things from a point close to the ground; the world was seen tall, with grown-ups looming like giants. We have all forgotten this experience, for the images in our heads can be reclaimed only by our memories—notoriously unreliable and fading rapidly from the time impressions are first made. But put a camera down low and, from the picture that results, we can recapture the child's-eye view, not for an instant only but for as long as we look at the picture and as often.

In such simple ways as this it was discovered early that cameras and photosensitive emulsions could be used to extend human vision, both in photography the art and in photography the scientific aid. The tool, in its potentialities, was leaving its mark upon the art. With refinement of photographic equipment there developed unprecedented power to explore our visual surroundings.

Camera and photosensitive emulsion can now see what the eye cannot: invisible radiation—X rays, cosmic rays, ultraviolet rays, infra-red rays—revealing objects cloaked in total darkness, bones beneath the skin, the structure of the universe; things too fast for the unaided eye—a horse winning by a nose, a bullet speeding through the shock wave of a sound barrier, a golf ball compressed by the head of a striking club; things too slow—flowers and cities growing; things too big—the earth's curvature; things too small—atoms, bacteria, metallic crystals; things too far away—spiral nebulae and the outer stars; things that would blind us if we looked at them—the sun's corona and the fireball of the nuclear bomb. Cameras can go where men would surely die—out into space, to the bottom of sea deeps as far below the surface as the Himalayas are above. Thus, over the past century, photography has extended human vision and, in combination with scientific instruments, revealed thousands upon thousands of unexpected aspects of nature on level after level; beauty and strangeness never before imagined.

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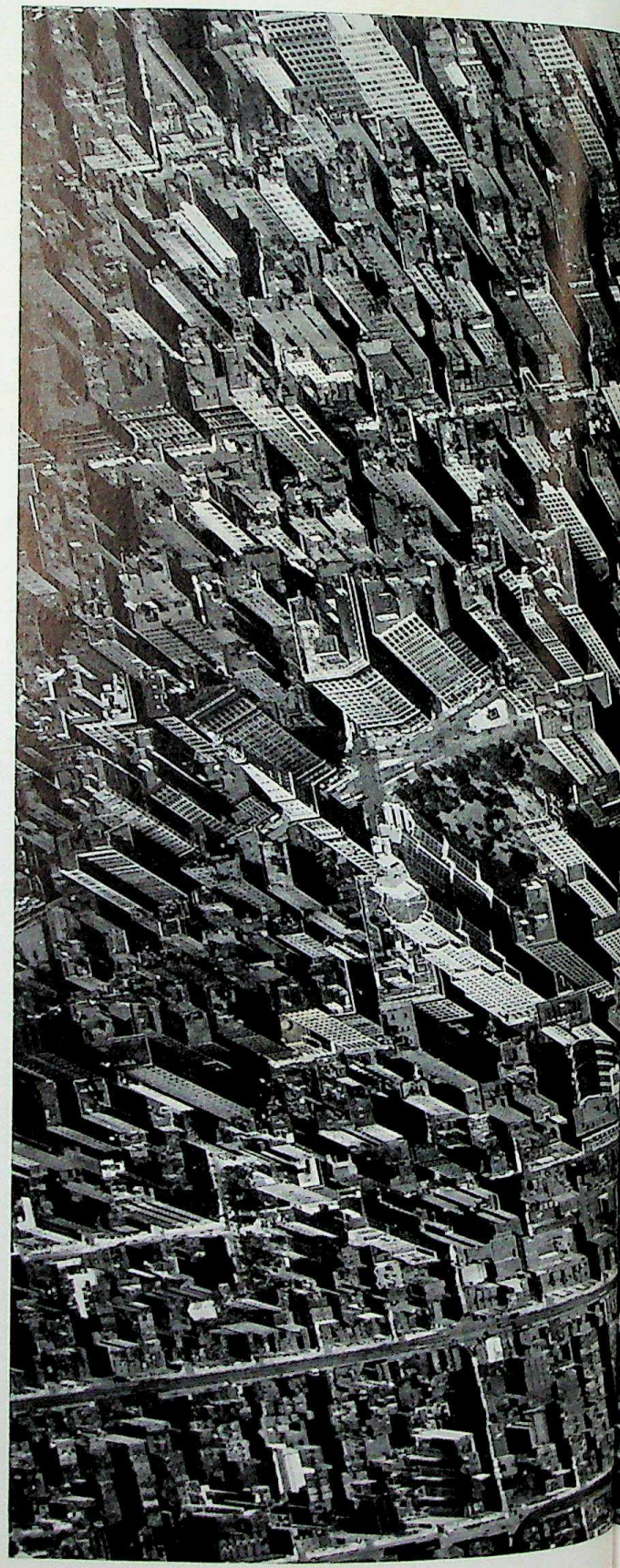
Not only has this work been socially and scientifically useful, but these wonders of nature now made visible are as fascinating to the observer as those that can be seen by the unaided eye. If we are interested in the world, these pictures interest us. Even a book about the art of photography would not be complete without some of these pictures, for the photographic artist has studied them and has extended his vision and technique through his study.

The art of still photography has been enriched by interaction with cinematic art and with applications of photography. The movie, which grew out of still photography, has in turn shown the still photographers how to master the craft of narrative, to make action sequences dramatic in their variety of motion and shifts of scene and scale. The familiar miniature camera employed for this purpose and others has been adapted from the movie camera. It has the movie camera's key structural and mechanical features: a big, fast, short-focal-length lens for great depth of focus and the ability to take pictures in dim light; 35-millimeter fine-grain roll film advanced one frame at a time by a sprocket drive—this allows dozens of pictures to be taken in rapid succession without a change of film; and a high-speed shutter that can stop almost any action. Such a camera is so small, so portable, and so versatile that it frees the photographer to go almost anywhere and take almost anything.

The telescopic lens—sometimes twenty times as long as the picture that it takes is high—provides the photographer with the opportunity to show stirring visions seen from afar. In the distance, in the back of long views seen by the human eye, there has always been a geometric realm an "infinite" distance away. There are forms and shapes, but neither perspective nor depth in space. As seen by the eye, however, the forms of this realm are vague and few, little more than hazy silhouettes. Photographers have brought this realm close and shown us fully detailed overlapping patches of windows, doors, and buildings, all apparently at the same distance from us. This is a view of the world contributed by photography confirming that of the Cubist painters. However, it also belongs to the photographer himself—by natural right if by nothing else. In documenting Cubist realities, and in providing us with images of high fantasy and bold patterning—which painters consult for Surrealism and abstraction—the photographer has enlarged our experience and made both his own art and the art of the painter more moving. He has demonstrated once again that our imaginative vision is rooted in physical and optical reality.



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Special nine-lens aerial photograph of Manhattan, by U. S. Coast and Geodetic Survey. Courtesy Gyorgy Kepes, Cambridge, Mass.

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right: Clouds of gas and dust, 4,000 light years away. Photographed with 200 inch lens in red light. Courtesy Mount Wilson and Palomar Observatories. left: Ocean floor seen from three miles above water. 1948. Photo by Aero Service Corporation. From The New Landscape, *by Gyorgy Kepes, Paul Theobald and Co., Chicago. Courtesy Gyorgy Kepes, Cambridge, Mass. below: Spiral nebula, taken with 200-inch Hale telescope. Courtesy Mount Wilson and Palomar Observatories.*

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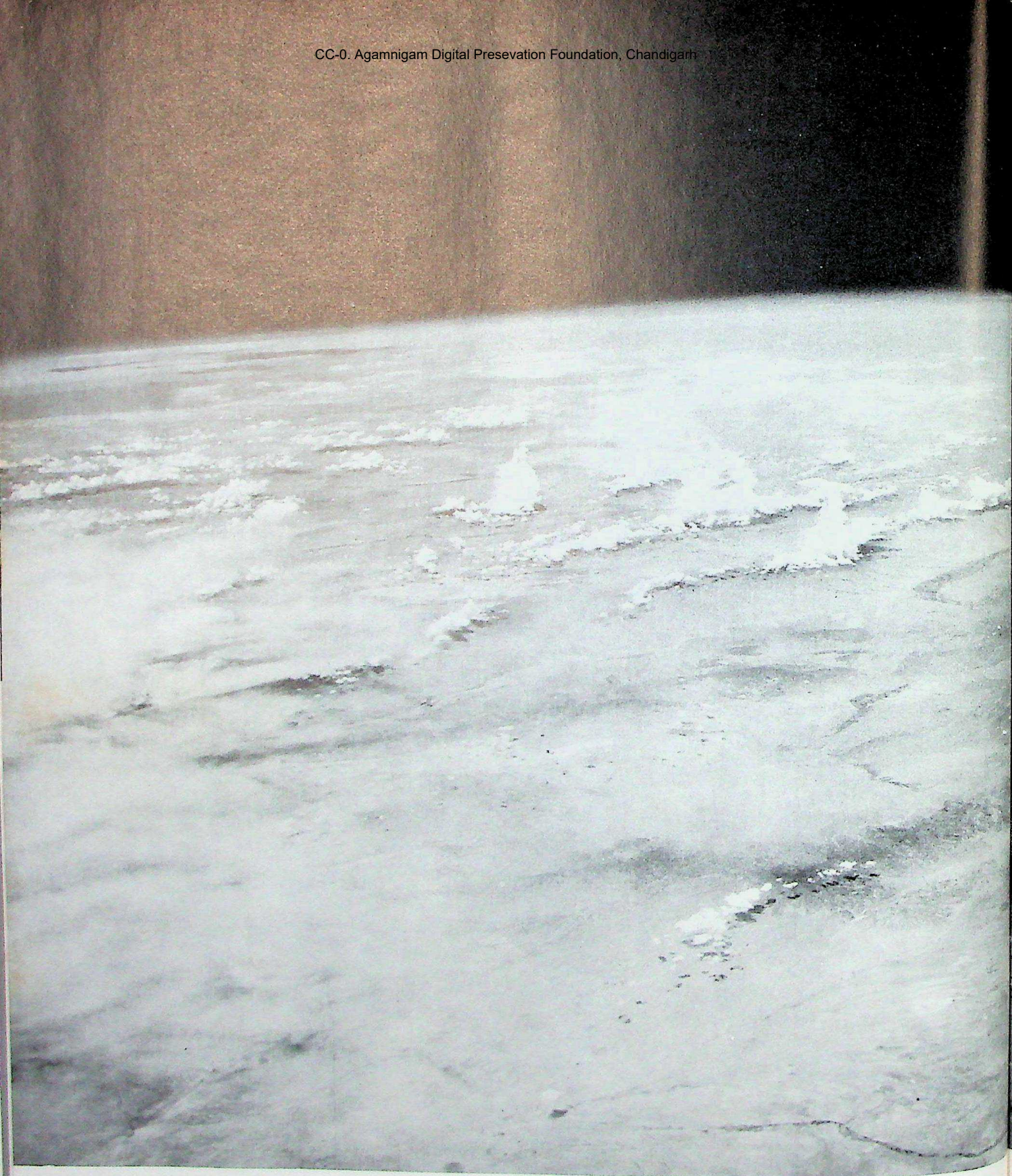

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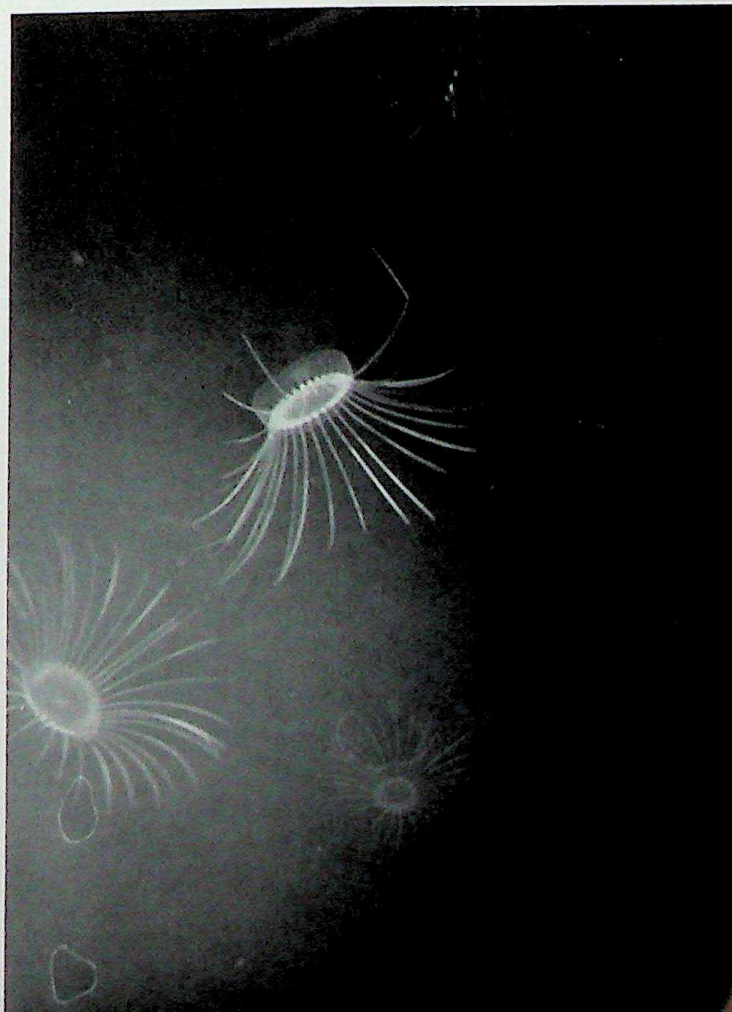
left: Curvature of the Earth.
Aerial photograph made from a V-2 rocket, 1948.
Courtesy Clyde T. Holliday, The Johns Hopkins University
below: Under-sea photograph taken with the
bentograph at 970 fathoms. 1951.
Courtesy Allen Hancock Foundation for Scientific Research.



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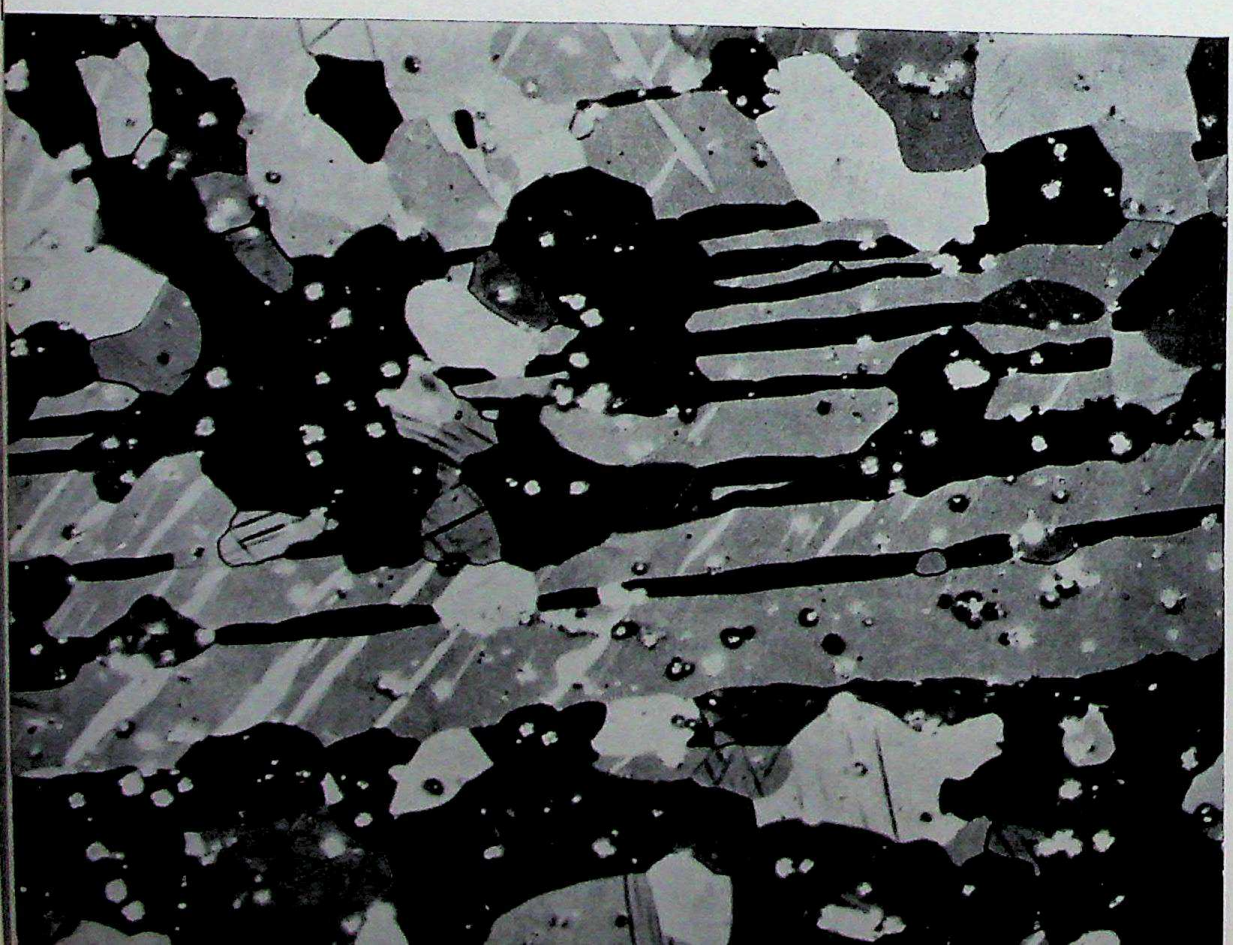
right: G. E. VALLEY, *Cloud-chamber photograph. Taken at the Massachusetts Institute of Technology. From* The New Landscape. *Courtesy Gyorgy Kepes.*
below: H. P. ROTH, *Uranium in polarized light. Courtesy H. P. Roth, Nuclear Metals, Inc., Cambridge, Mass.*
opposite page: Self-registered picture of dialectric in process of breakdown. From The New Landscape. *Courtesy Gyorgy Kepes.*



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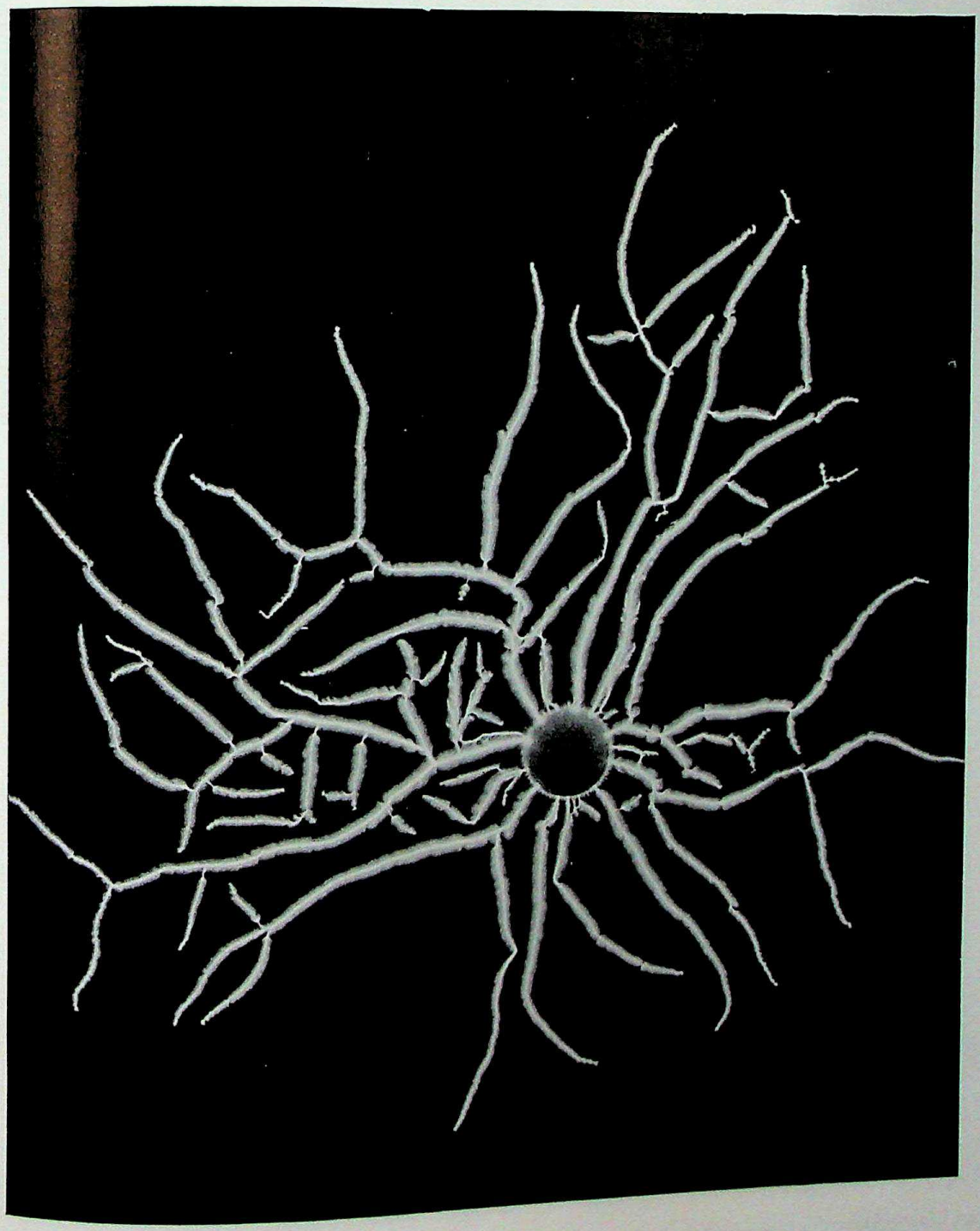

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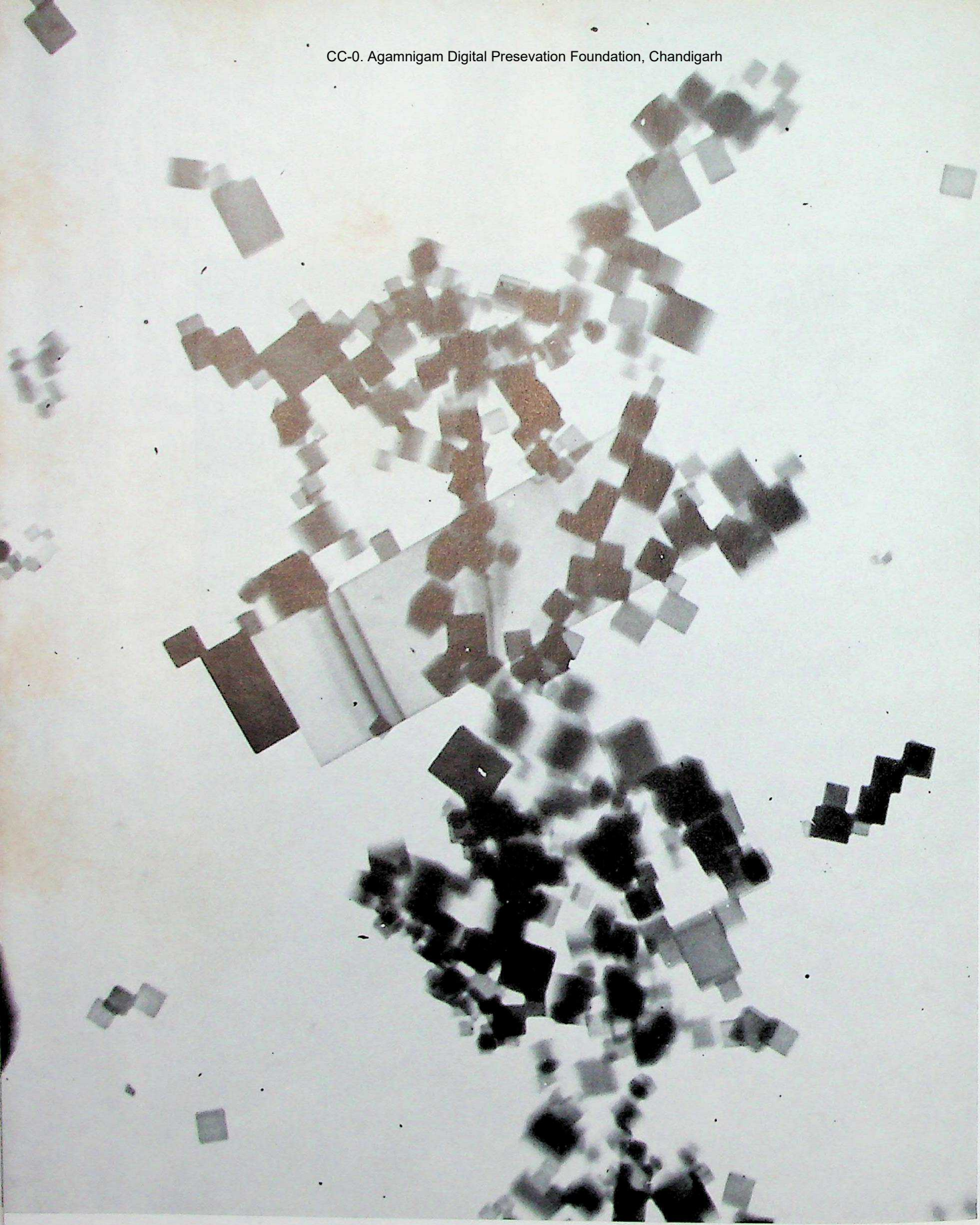

A. WATANABE, *Magnesium oxide magnified 65,000 times. Photo taken in electron microscope laboratory of Keio University, Tokyo. From* The New Landscape. *Courtesy Gyorgy Kepes.*

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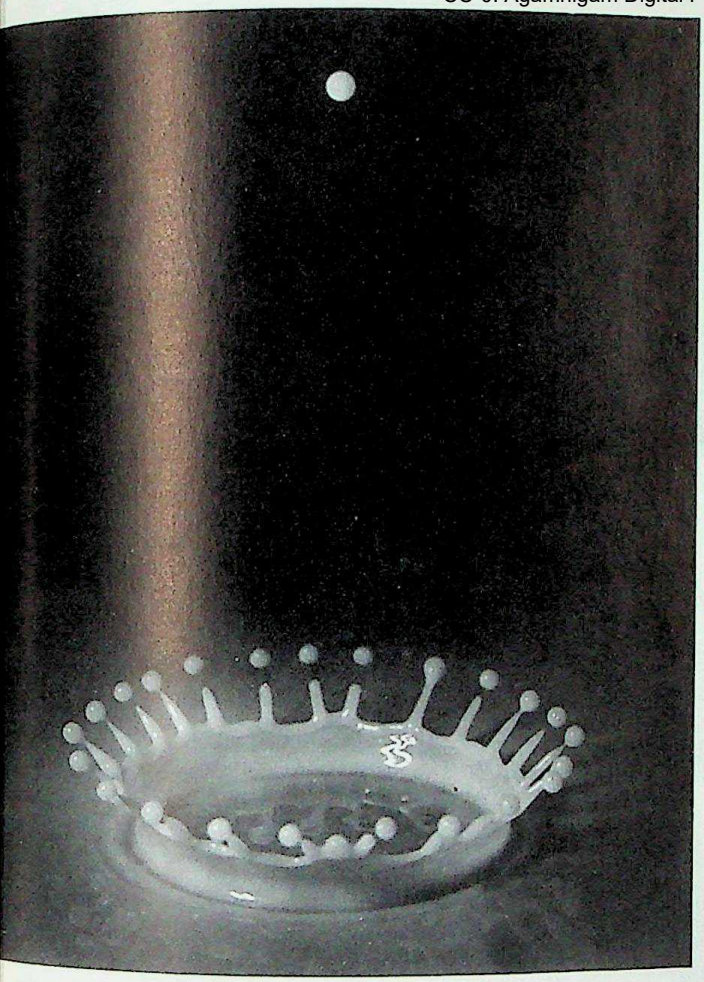
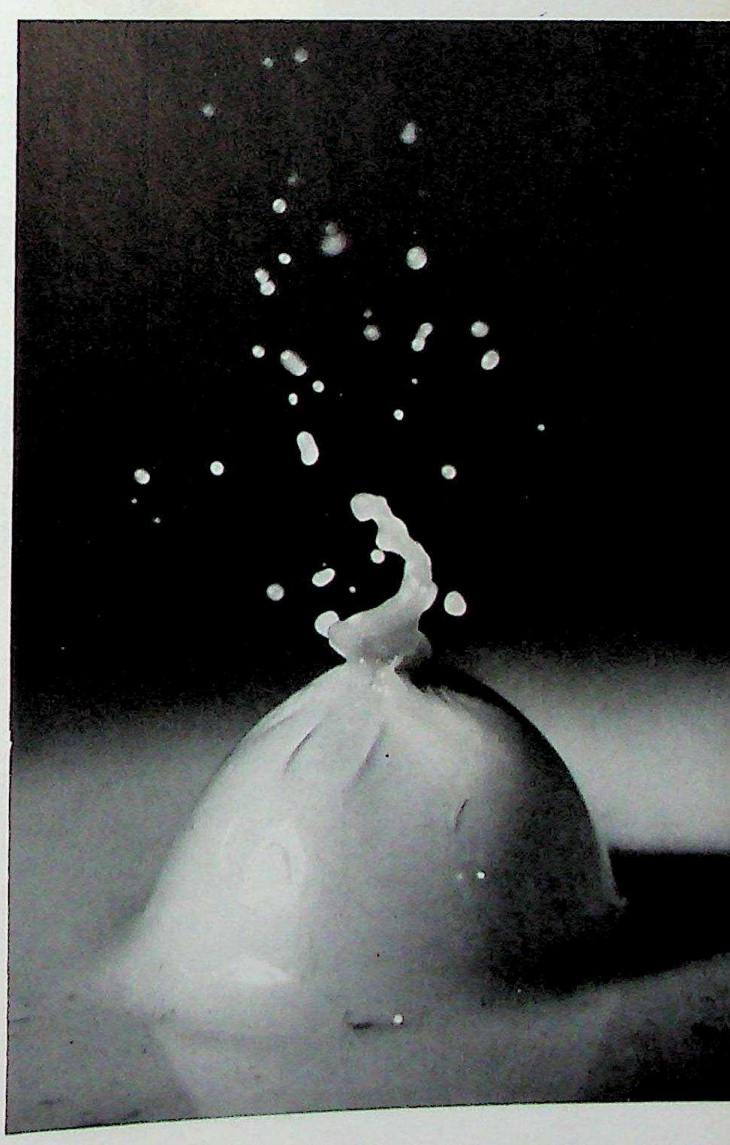


left: HAROLD EDGERTON. *High-speed photograph of falling milk drop. Courtesy Harold Edgerton, Massachusetts Institute of Technology.*
below: Waterdrop. High-speed photograph. Courtesy United States Navy.



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Underwater Atomic Explosion. Bikini, "Baker Day," 1946. Photographer unknown. Courtesy Atomic Energy Commission.

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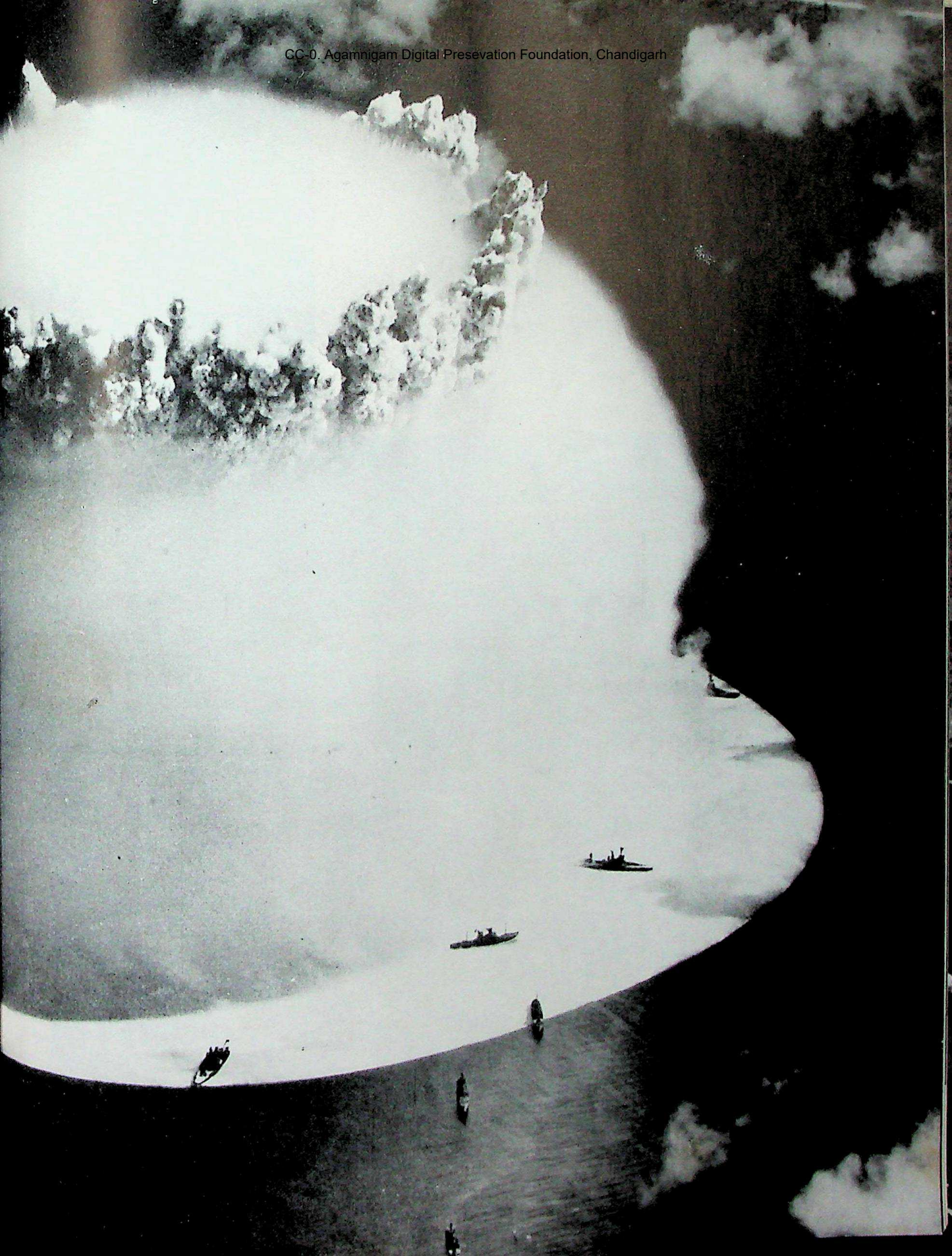

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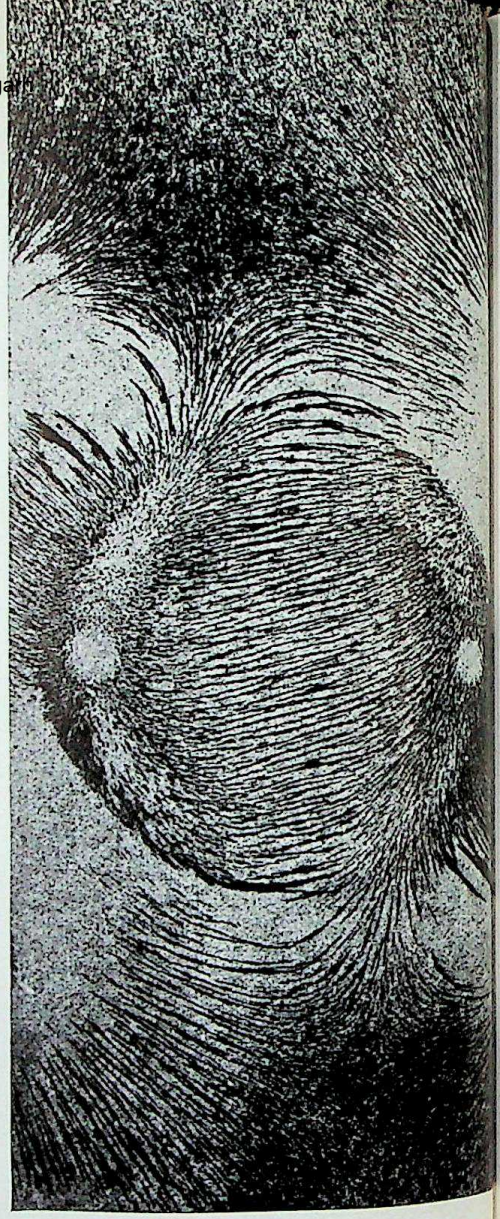
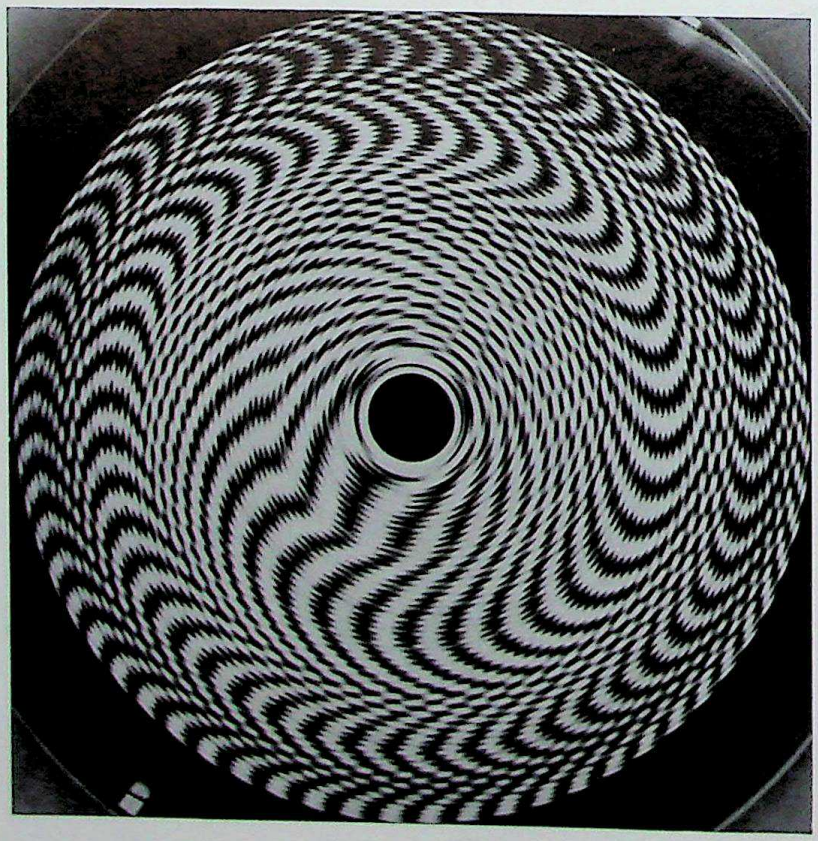


below: F. VILBIG. *Modulation disk. From* The New Landscape. *Courtesy Dr. F. Vilbig, Cambridge Research Center.*
right: FRANCIS BITTER. *Magnetic field. Courtesy Professor Francis Bitter, Massachusetts Institute of Technology.*
opposite page: Radiograph of a snake. From The New Landscape. *Courtesy Eastman Kodak Company, Rochester.*



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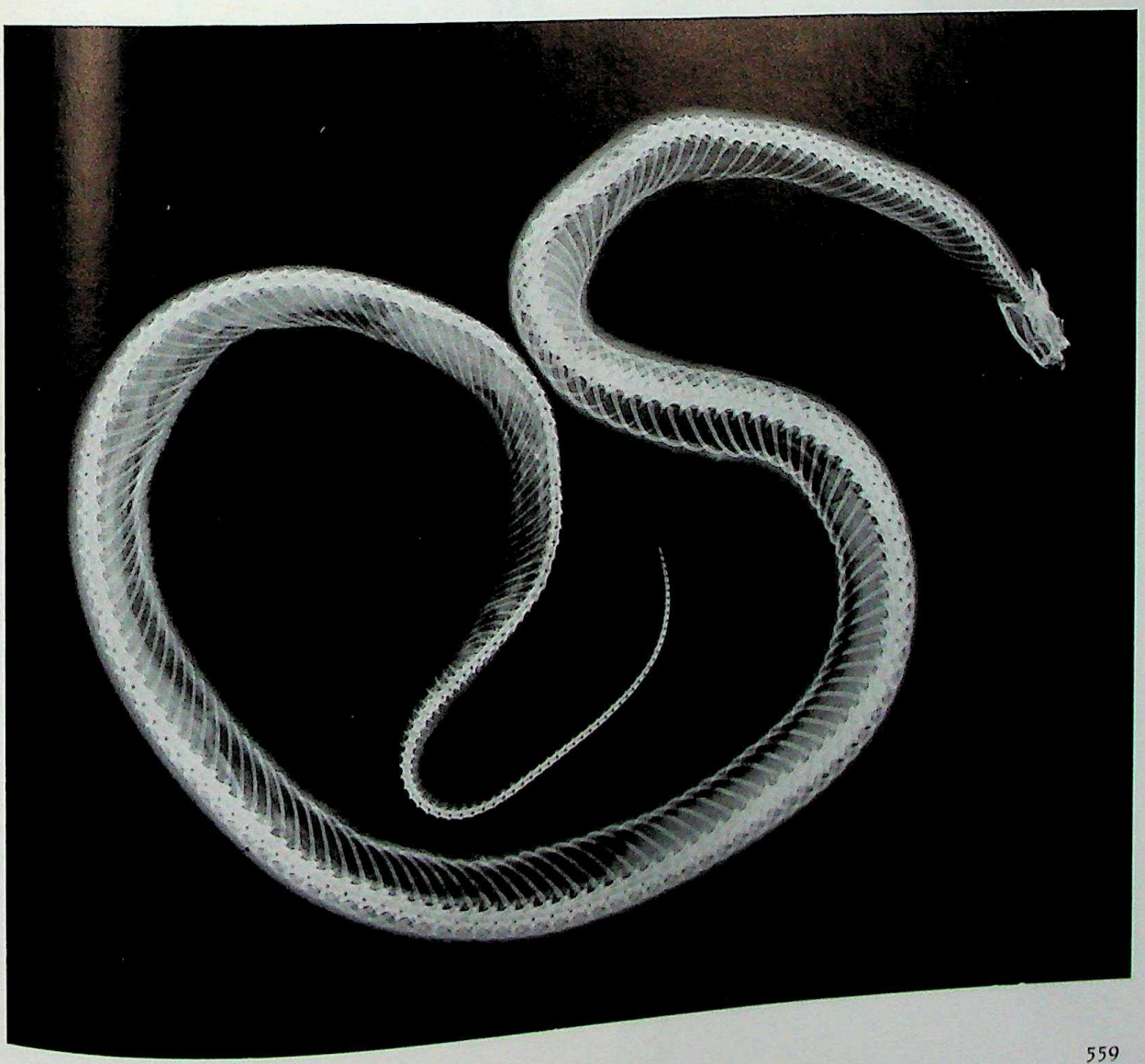

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40.

Around the World in Fifty Photographs

PHOTOGRAPHY IN THE MID-TWENTIETH CENTURY is the closest thing to a universal art that the world has ever seen. It is not only an international art, but the great photographers are an international fellowship. One of their important organizations is Magnum Photos, a co-operative which supplies photographs to leading picture magazines throughout the world. Magnum's photographers as do those of Rapho-Guillumette and other international photo agencies come from everywhere, go everywhere, and see themselves in print wherever they go. But the international character of photography transcends such organizations as these. Photo clubs exist everywhere, ignoring national boundaries to carry on a lively interchange of ideas and work; while photographers avidly study magazines and books of their opposite numbers, quite indifferent to linguistic barriers.

The men who took the fifty pictures in this chapter come from many lands: England, America, Switzerland, Germany, Italy, Greece, New Zealand, and Japan. Most of them no longer work in the country of their origin. With few exceptions, notably the Japanese, it is hard to find in their work more than slight traces of a national style. Generally, the Swiss are highly proficient in technique; the Americans—by adoption as well as by birth—have a sense of humor and an eye for fast action; the English sense human drama concealed within the

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commonplace. The national differences, nevertheless, do not seem to be too important. What is significant in today's photography these men have in common.

First of all, they have in common their integrity and devotion. They are serious about their work. Their pictures are true statements of the world as they see it. And no fewer than three of these men—Capa, Bischof, and "Chim"—lost their lives in photographic action. There are others who risk their lives daily.

Second, they have in common a command of their medium, uncommon only twenty years ago. Their photographs are no finer than those of the great photographers of the twenties and thirties—or, indeed, than those of the great photographers of the nineteenth century. However, ways of seeing and communicating developed one by one by a succession of photographic innovators have now become one universal body of photographic knowledge. Today's leading photographers have mastered and absorbed this body of knowledge and made it their birthright. More than a century of development has now equipped photographers to take from the world anything they can find there with their eyes and their understanding. They can make serenely patterned landscapes, show the confusion and violence of war and social upheaval, reveal the abstract forms of nature that nature ordinarily conceals from us. And they have refined and developed further the previously known ways of recording the world's significant aspects.

When Dr. Salomon, a generation ago, made split-second use of his miniature cameras to catch statesmen and celebrities with their guard down, the picture-viewing public was excited by the novelty of candid-camera work and delighted to see with its own eyes that the great and powerful were only human beings after all. Today, the novelty of candid-camera pictures has worn off, and the public has come to expect more than just the excitement and immediacy of an unposed photograph. Substantially as a result of such pioneering work as that of Salomon, Eisenstaedt, and Bourke-White, picture-magazine readers by the millions have learned the language of the camera. Photographs are their greatest source of information about the world—its lands and peoples, habits, customs, ambitions, tribulations, and achievements. When the picture releases its message, they do not fail to understand.

The photographer has not failed to respond to a public so eager and informed. He understands and conveys as never before what Cartier-Bresson has called "the decisive moment." It is not enough for him to show well-known people off their guard or to stop the action of a fast-moving football game under difficult lighting conditions. He has learned to control action. He knows how to wait for the significant motion, the revealing expression, the world's aspect that only his eyes have hitherto been able to see but that he can now record with his camera promptly communicating the meaning of his picture to millions.

Why, given this high level of technical competence and ability to observe, do we find in these fifty pictures so great a variety of photographic image? Because nature itself, as we observe it, is so various. A single small patch of nature has an infinite number of aspects, depending upon our constitution and experience, upon whether we look at it steadily or fleetingly, attentively or absent-mindedly, according to its general shape or its specific detail. Observing nature, we organize our vision. With a suitable camera and skill to match, we can record our private vision and make it public. The shifts and movements of nature are likewise infinite. The trained eye can follow the pattern of certain movements as they unfold; and, again, with suitable camera and suitable photographic skill he can make public the pattern that only he could see before. In the hands of a sensitive photographer the camera shows what is there—yes—but it shows much more than just that for it requires effort to make the image reveal its many meanings.

This kind of organization of nature's forms and movements is the essence of photographic creativeness. The creative photographer does not invent forms, as the creative painter or sculptor does; he discovers them in nature or in man-made objects—for what the camera discloses is its own personal kind of reality depending on the vision of the photographer. The photograph is a true statement of the world rather than about it. In this respect photography is like science; the creative scientist, too, discovers what is there. But photography is also like its fellow visual arts of painting and sculpture in its control, discipline, and organization of forms drawn from nature. Indeed, photography gives us basic information about the realities of all visual art. It shows us, for example, that the created abstract, cubist, and expressionist forms of modern artists are rooted in seen reality and correspond to forms found in nature as discovered by the art of photography.

Photography, uniting art and science as it does, is not only the most popular but the most characteristic art of our modern scientific and technical world. It was a child of the industrial revolution, and was the first art in history to depend upon a scientific instrument for its productions. Its broadening and deepening as an art has

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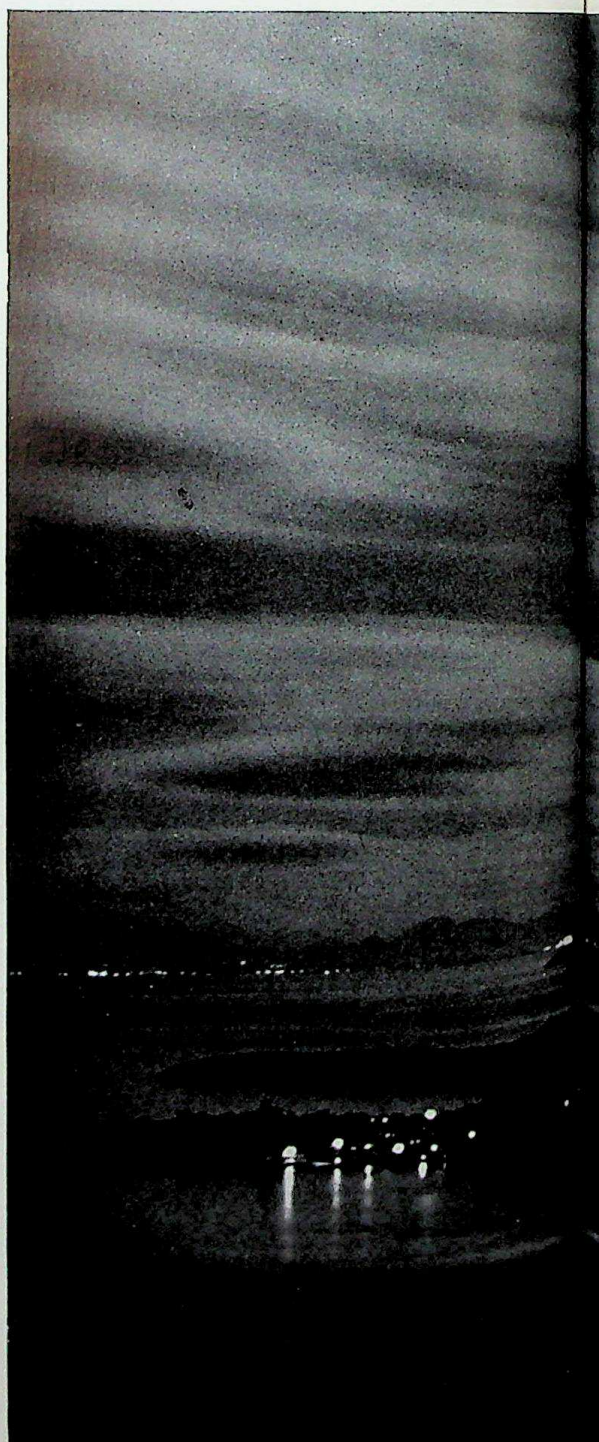
likewise had to follow upon developments in science and technique, for the creative photographer used every new invention to make more meaningful images.

Photography has not displaced painting, as art critics predicted a century and a quarter ago, nor will it. There is more need than ever for the visual discipline and imaginative vision that creative painters provide our visually chaotic society. But photography is an artistic medium of tremendous flexibility and power. It is charged with reality on many levels and its rapid development during the brief period of its existence is a promise of still greater things to come.



JAPAN

JAPAN, IN LITTLE MORE than a decade, has become one of the leading countries in the manufacture and export of photographic films, papers, and equipment—especially camera lenses. The bubble-proof lenses, from extreme wide angle to telephoto, made for Japan's precision cameras, have captured the world's markets.

Photography seems to satisfy a special Japanese aesthetic need. Traditionally based on close observation of the moods and details of nature, Japanese art, combined with a growing devotion to science, now finds a new and popular expression in the camera. After World War II, millions of amateurs flocked to camera clubs. Subtle pictorial representation was the important aesthetic principle: fishermen carrying lighted torches, delicately balanced against the flickering lights of small villages; a misty morning on the river, logs floating downstream like dimly drawn boats in an ancient scroll; or a hallowed gate of a temple silhouetted in starlight.

With the American occupation, new conceptions of realism and humanism influenced the impressionable young whose cameras concentrate on the vast changes in the new generation. Photographs by several of these contemporary Japanese poets and probers with the camera are presented here. *Photographs from* Japan—Fernesland, *courtesy Verlag Gerd Hatje, Stuttgart.*

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YUICHI MIDORIKAWA, Islands in the Sea at Night. 1957.

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TOSHIJI MUKAI, *above:* Lake Shudoko in Rain. 1957.
right: The Valley Nagataro in May. 1957.

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below: TAKENO TANUMA, Contrasts of a Summer Festival. *1956.*
right: YASUMASA KATAYAMA, Night View of Miyajima Temple. *1956.*

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ENGLAND

BILL BRANDT

ONE OF THE BEST-ROUNDED and most effective cameramen in Britain, an architectural and landscape photographer, social commentator, and satirist. After photographing the human misery and social incongruities of depression-bound Britain, he turned to photojournalism during World War II, documenting for the Home Office the courage of Londoners during the blitz. Since the war he has devoted himself to interpreting scenes of literary Britain—the architecture and landscape associated with Britain's great writers from Chaucer to Shaw—photographs which were published as *Literary Britain*. *Photographs courtesy Bill Brandt, London.*

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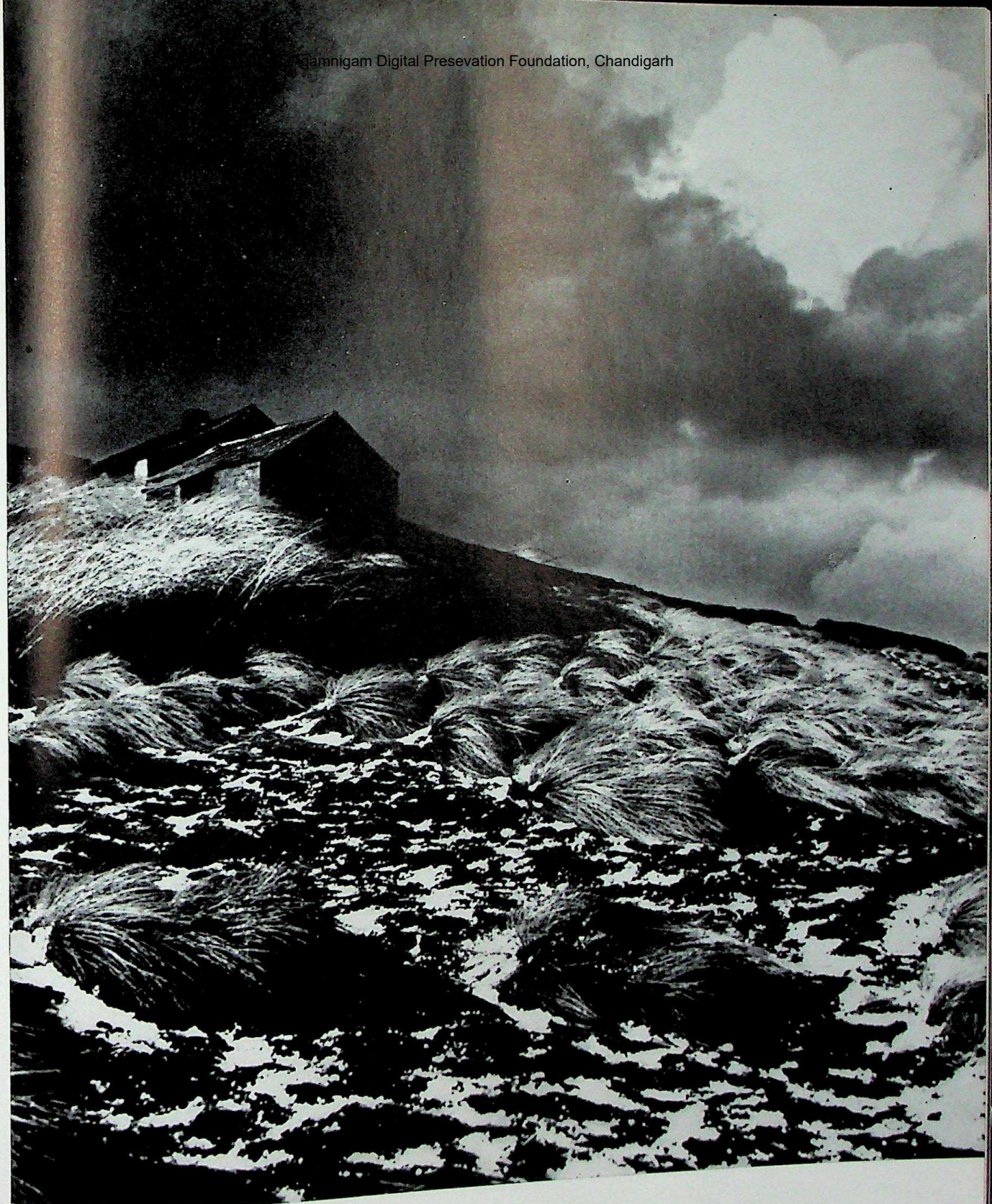

BILL BRANDT, *above:* "Wuthering Heights." 1945.
left: London Child. 1955.

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BRANDT, Parlormaids. 1932.

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ROGER MAYNE

TRAINED AS A CHEMIST at Oxford, Mayne abandoned chemistry for photography upon graduation. He has photographed an astonishing record of London's "Teddy boys" and their girls, with their Edwardian clothing and haircuts, assertively handsome as they walk the streets or lose themselves in their favorite haunts. He does not confront us with a sociological exposé of delinquency but gives us a truthful, sympathetic presentation of these children of the streets. Mayne is preparing a book in which some of these photographs are combined with poems and essays written by the children themselves. *Photographs courtesy Roger Mayne, London.*

ROGER MAYNE, London Street. 1957.

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MAYNE, *above*: Tears. 1956.
right: Tension. 1956.

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SWITZERLAND

WERNER BISCHOF

WHILE PHOTOGRAPHING his fourth continent at the age of thirty-eight, Bischof's truck plunged off an Andean mountainside in 1954. Few men in our era have matched this young native of Switzerland and member of Magnum in technical mastery and breadth of range as a photographer. After an early career devoted to meticulously constructed pictures of shells, still lifes, and the pictorial beauties of nature, he turned his camera on people. He covered stories of harassed lives—took memorable news pictures amid the political and social upheavals of Central Europe and Asia. His photographs of humanity as well as of magnificent landscapes on both hemispheres attest to his acute responsiveness to the visual image. *Photographs courtesy Magnum Photos, New York.*

WERNER BISCHOF, Shinto Priests in Snow. *Japan, 1951.*

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BISCHOF, *below:* Famine in India. 1952.
left: Peruvian Piper. 1954.

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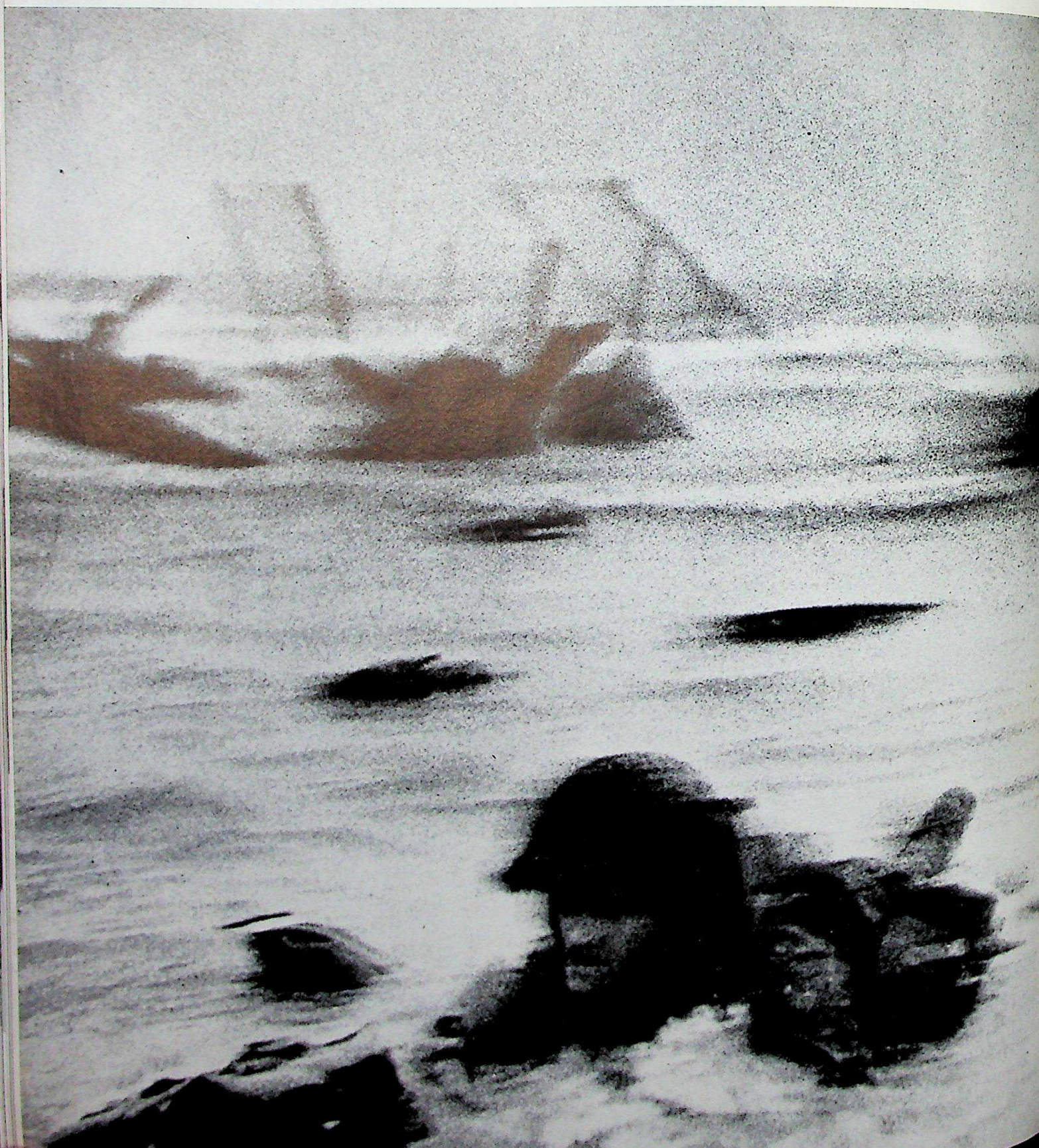
ROBERT CAPA, D-Day Normandy Beachhead. 1944.



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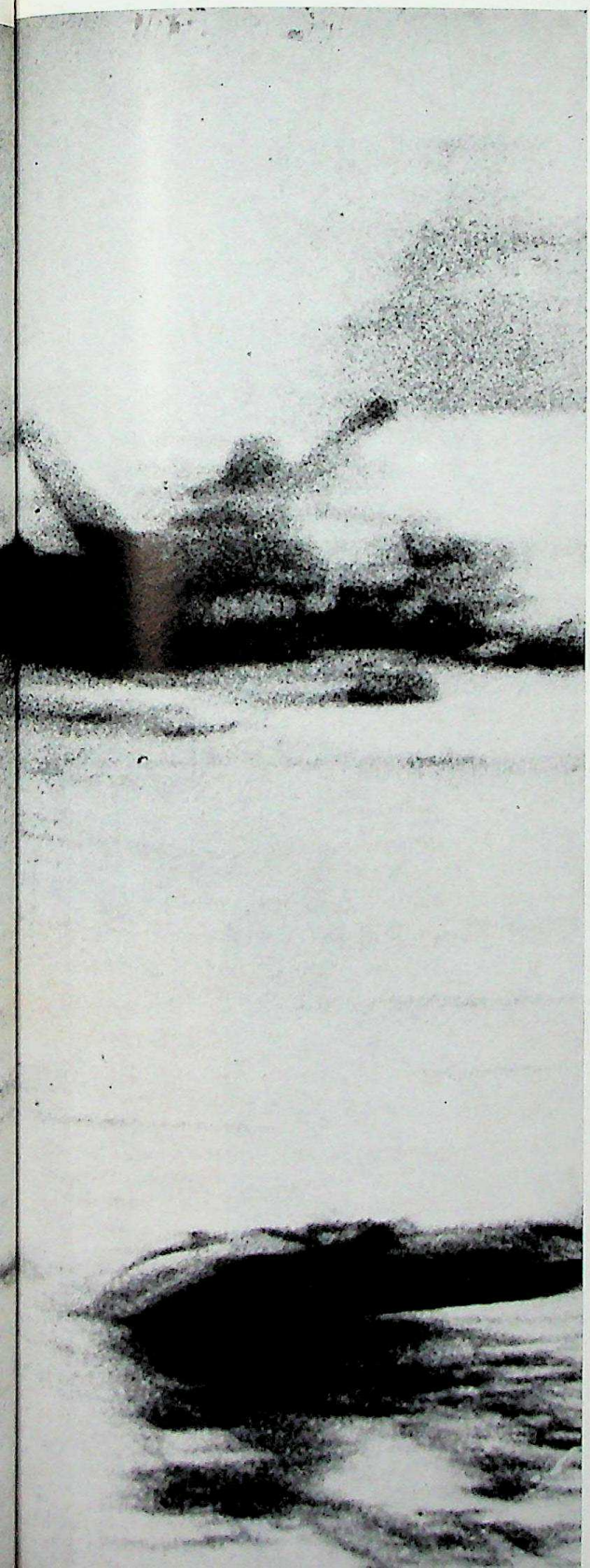

UNITED STATES

ROBERT CAPA

With Cartier-Bresson, and David Seymour (Chim), Capa founded Magnum Photos, an international, co-operative agency of picture journalists serving the world's magazines. Born Andrei Friedmann, in Hungary, Capa became the greatest combat photographer of his time. He met death in Indo-China in 1954 when, characteristically, he drove ahead of a troop movement to photograph the marching men and accidentally ran into a land mine. To Capa all considerations of technique were secondary to the immediate, effective telling of a story. Two of his photographs, one of a stricken Spanish Loyalist soldier, the other of the Normandy beachhead assault, in their swift blur show us, as no richly detailed and sharply defined picture ever could, the incredible violence of war. *Photographs courtesy Magnum Photos, New York.*

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ROBERT CAPA, *above:* Death of a Loyalist Soldier. *1936.*
right: Women of Naples. *1943.*

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DAVID SEYMOUR (CHIM)

WARSAW-BORN, David Seymour ("Chim") was killed by machine-gun bullets in 1956 while covering the war in Suez. When the Art Institute of Chicago held a memorial exhibition of work by this charter member of Magnum, his pictures of festivals, battles, and famous persons were withheld and the entire display given over to pictures of children—the lost, the starved, the maimed, the parentless. During the last dozen of his forty-five years, bachelor Chim adopted orphans of the war, supported them, visited them and placed them in the homes of his friends. To Chim, war was an enormous crime against children and his photographs he considered a stark reminder of this crime. *Photographs courtesy Magnum Photos, New York.*

DAVID SEYMOUR (CHIM)
left: Europe's Children. 1948.
right: Barcelona Air Raid. 1936.

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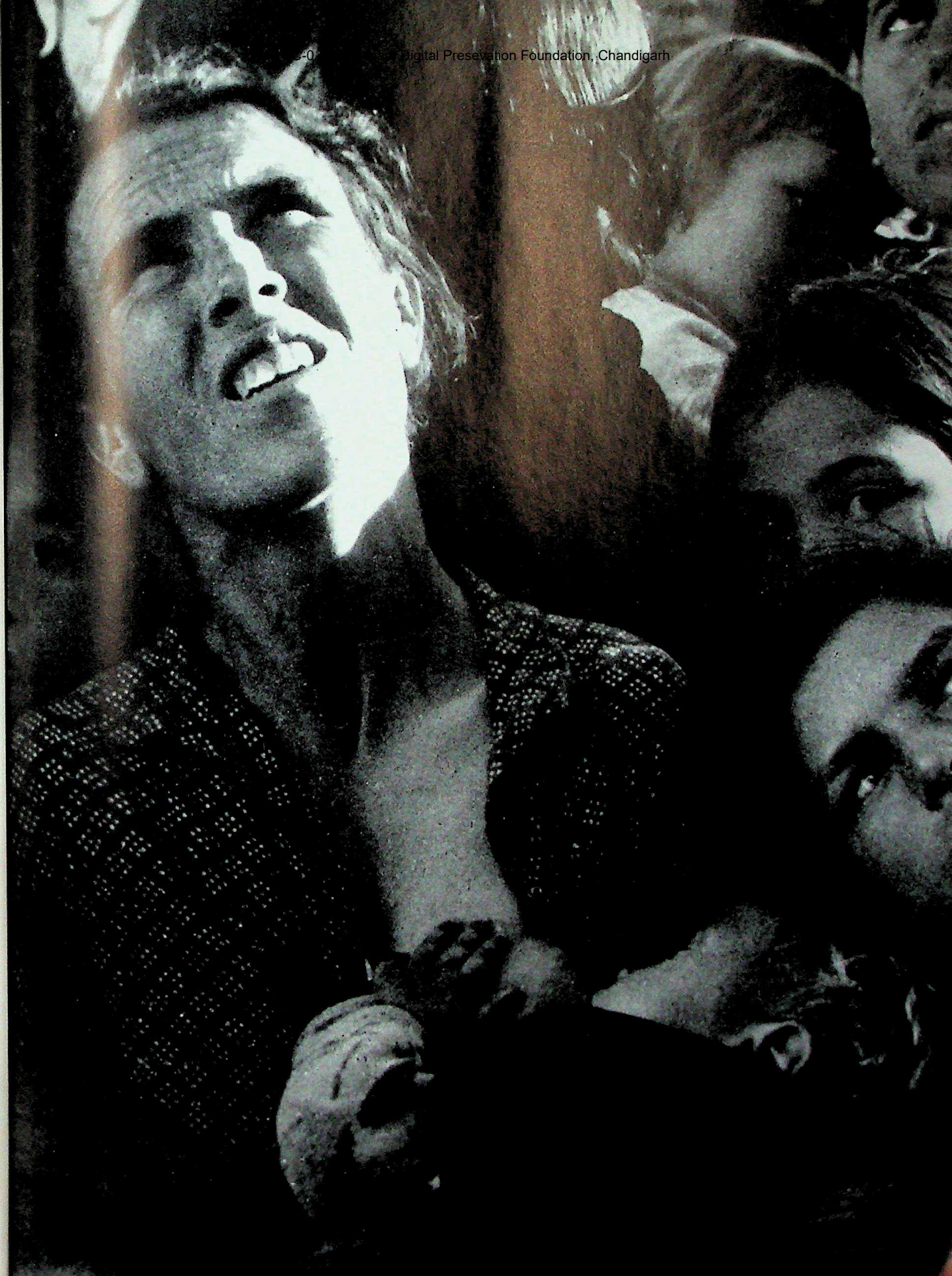

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CORNELL CAPA

LIKE HIS LATE BROTHER Robert, Cornell Capa shows a feeling for news, an understanding of people, and a sense of humor. He was born Friedmann in Budapest, 1918, and went to Paris in 1936 to begin his premedical studies. In Paris he paid his way by processing photographs sent back by his brother who was in Spain covering the civil war. Cornell came to the United States the following year and, after serving in Army Photo-Intelligence in World War II, became an American citizen and photographer for *Life*. After Robert Capa's death in Indo-China, Cornell moved to Magnum Photos. He covers the world on picture assignments for many international illustrated magazines. *Photographs courtesy Life Magazine and Magnum Photos, New York.*

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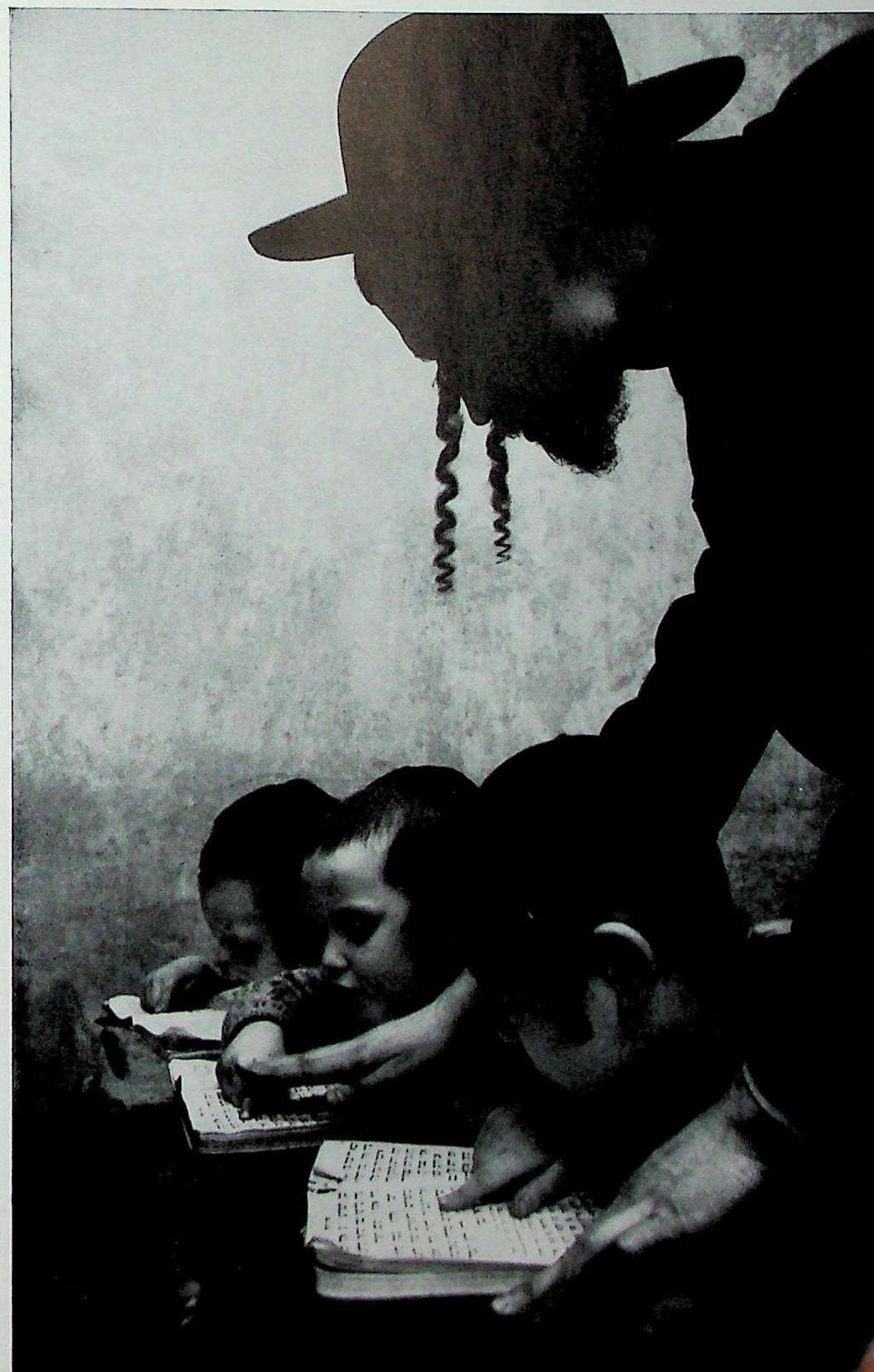
CORNELL CAPA, *below:* Talmudic Scholars. *Israel, 1955.*
left: John Christie, Founder of Britain's Glyndenbourne Opera Festival. *1951.*



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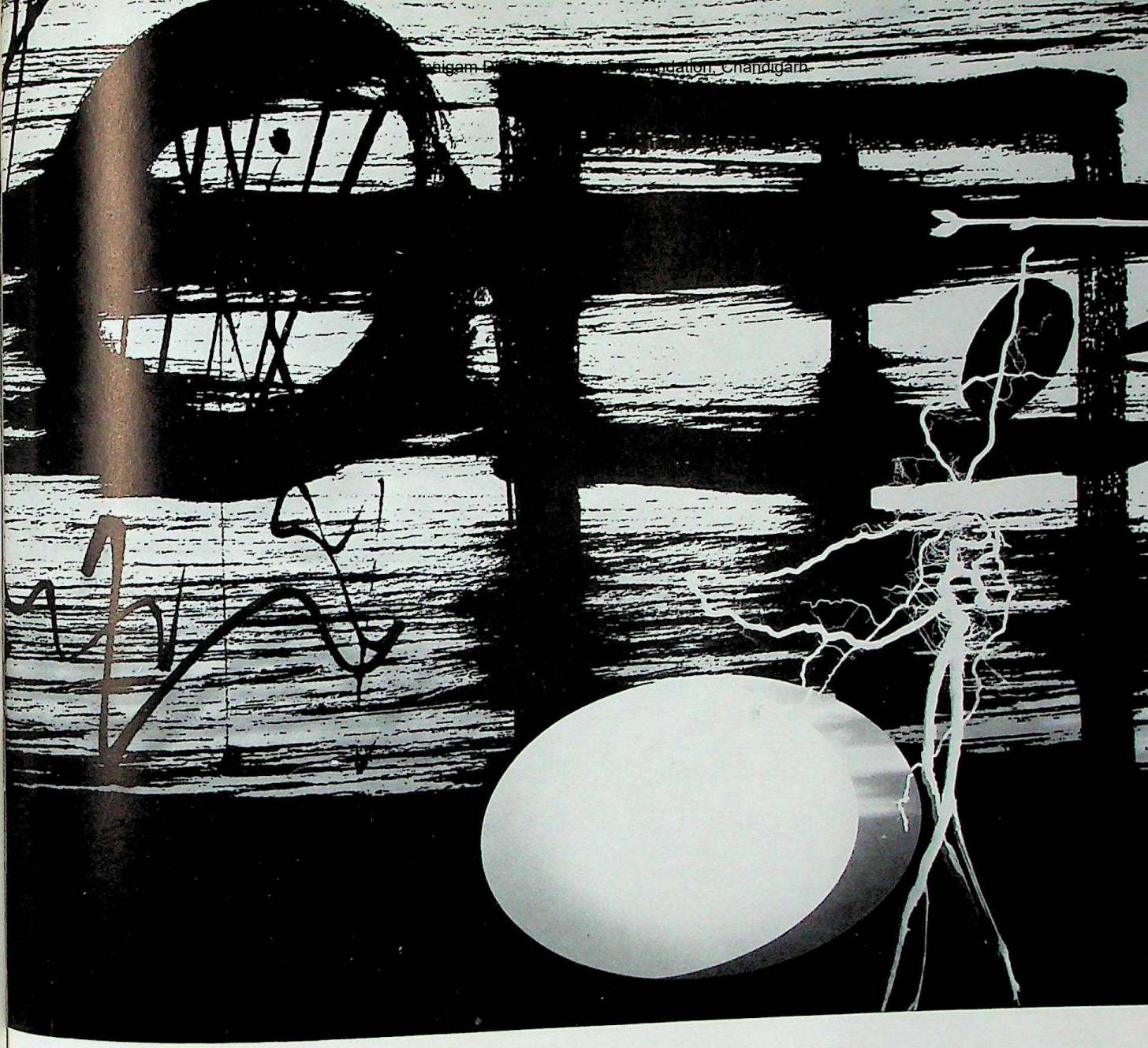
GYORGY KEPES, *below:* Photodrawing. 1939.
right: Light Texture. 1950.



GYORGY KEPES

Gyorgy Kepes, simultaneously with and independently of Man Ray and Moholy-Nagy, experimented with the photogram in the late 1920's shortly after his graduation from the Royal Academy of Art, Budapest. He worked with Moholy in Berlin, went to London, and, in 1936, came to America. He was co-founder, with Moholy, of the New Bauhaus, Chicago, now part of Illinois Institute of Technology. At present Kepes is professor of visual design at Massachusetts Institute of Technology. A versatile and wide-ranging designer, artist, and writer, Kepes is also one of the most influential teachers of his generation in many areas of design. Both as artist and teacher he has contributed greatly to understanding of light and color as means of evoking emotional response, despite the elimination of representational images. *Photographs courtesy Gyorgy Kepes, Cambridge, Mass.*

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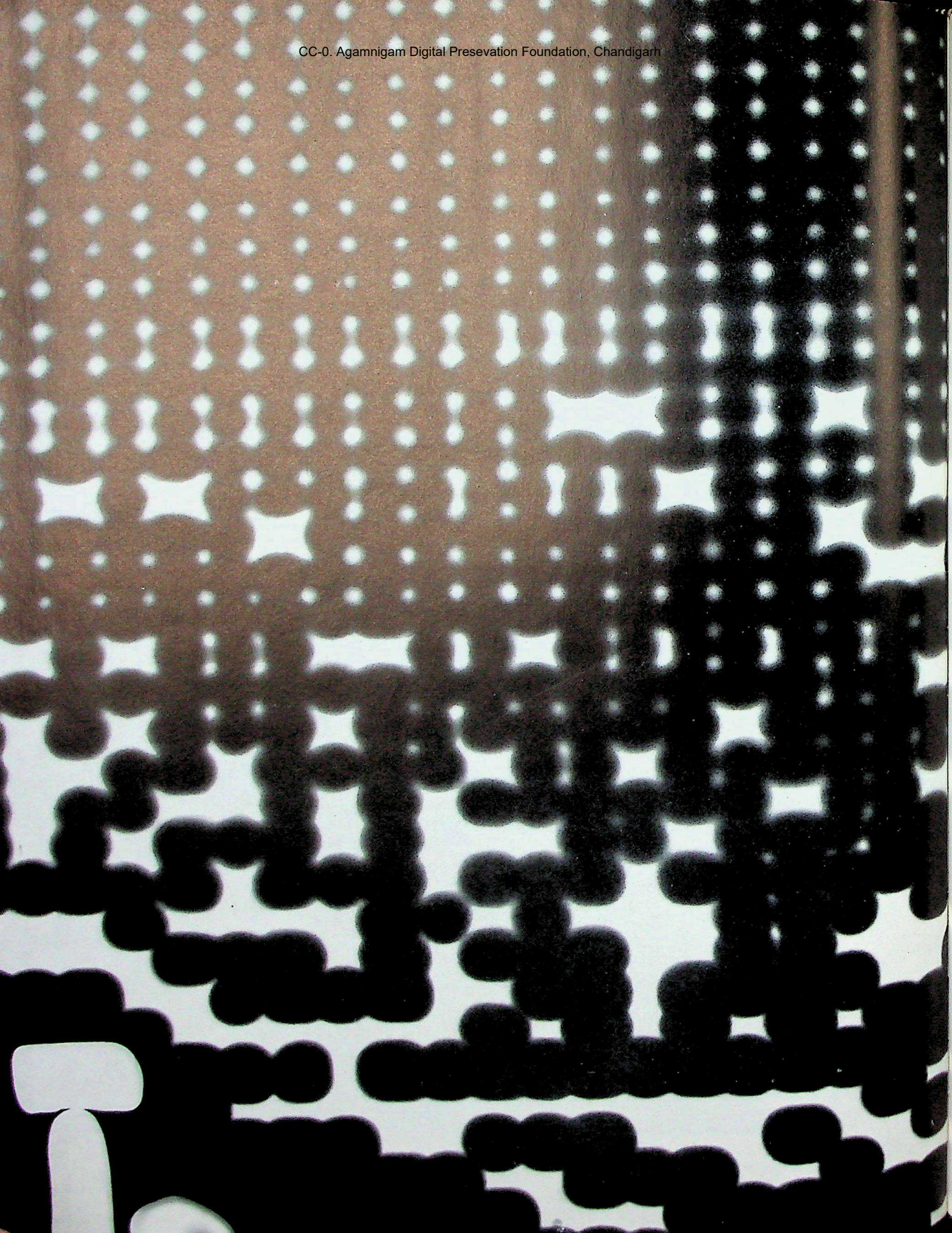

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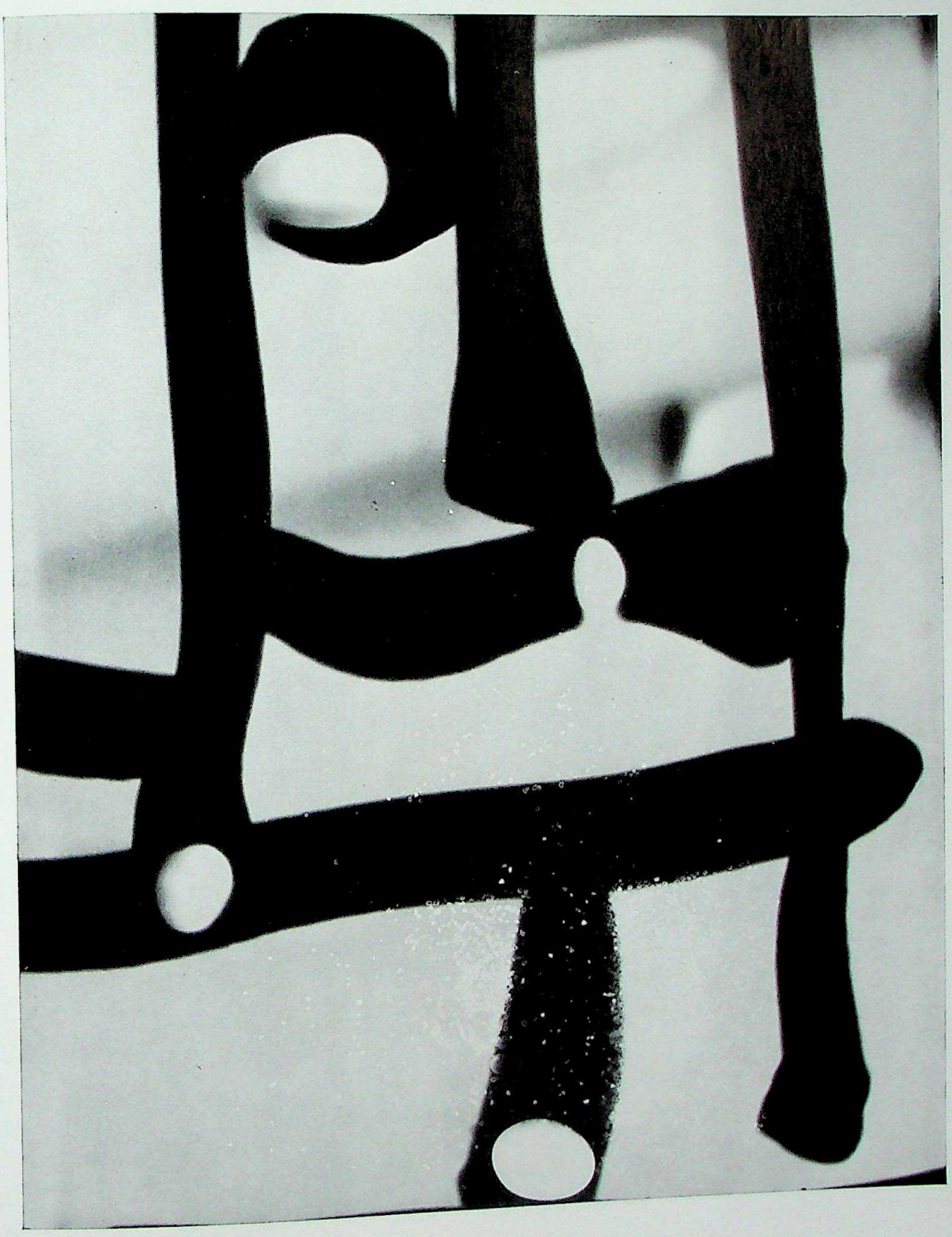

KEPES, *above:* Photodrawing. 1958.
left: Photodrawing. 1958.

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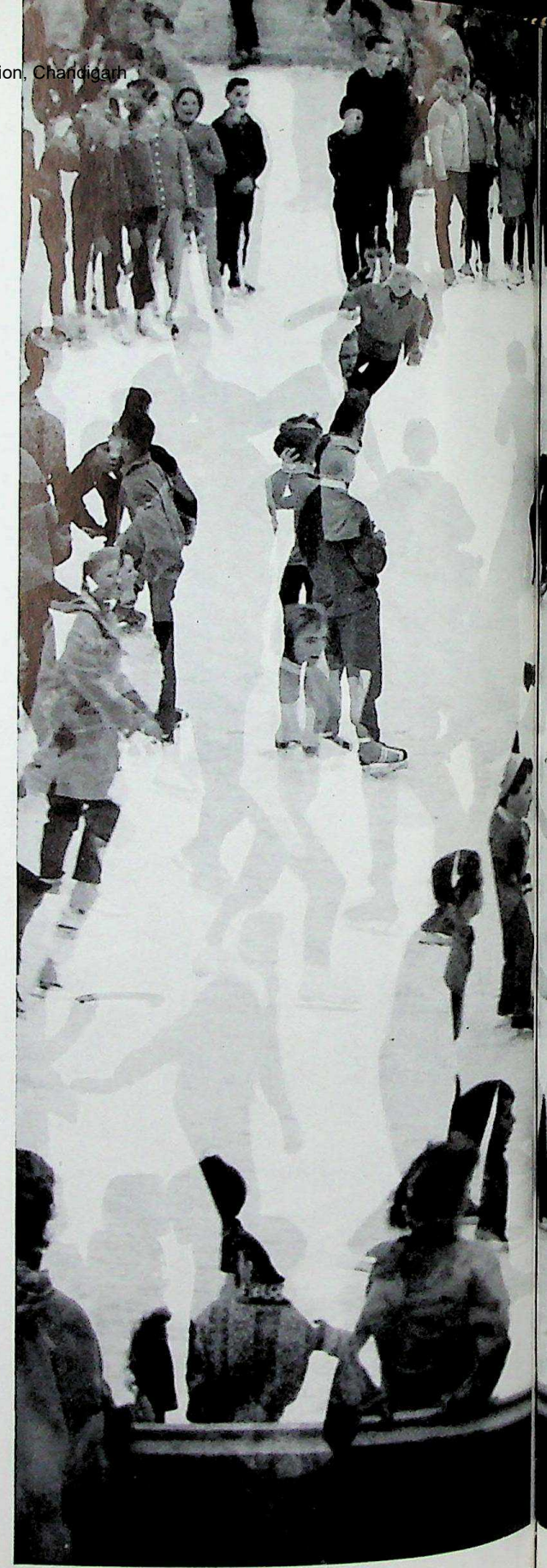
GERMANY

PETER KEETMAN

A PHOTOGRAPHER before World War II, during which he lost a leg. After the war, he reeducated himself in photography and became a founder of the "Fotoform" group. His chief interest is in creative experiment, as in his bird's-eye view of construction on a building site in Munich, taken from the tower of the city hall. Here a wiry, linear pattern of abstract forms and a view of the world seen from an unusual perspective are wedded to unmistakable, palpable reality. It is as though he had combined the two visions of Renger-Patzsch and Moholy-Nagy—the realistic with the abstract. *Photographs courtesy Peter Keetman, Munich.*



PETER KEETMAN, Study of Ice Skaters. *1957.*

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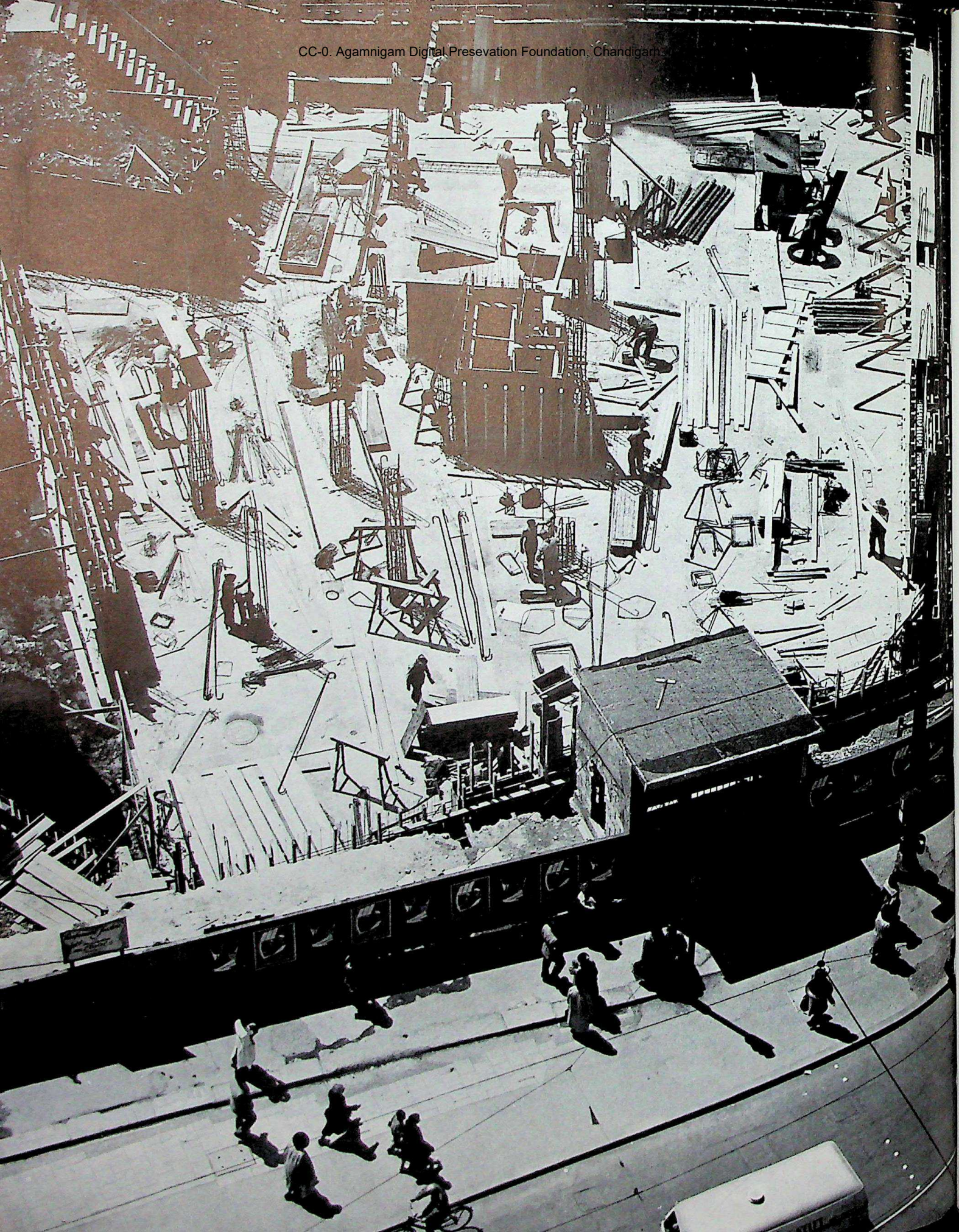

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left: KEETMAN, Construction in Munich. 1957.
below: MAX SCHELER, Political Poster in Rome. 1950.

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SCHELER, *above:* Ben Shahn and Alexander Calder, American Artists, in the Flea-Market. *Rome, 1955.*
right: Holy Sacrament. *1952.*

MAX SCHELER

THE YOUNG GERMAN Scheler forsook the classrooms of Munich and Paris Universities when he met the professional photographer, Herbert List, whom he followed on assignments to Spain, Italy, and Yugoslavia. By 1952, the 23 year-old Scheler was selling his own photographs to German and American publications. The next several years he made Cairo his headquarters, training his cameras on the changing political and social scene of the Mid-East for Magnum Photos. He now lives in Rome. But, he remains an itinerant cameraman, always moving. U.S. *Camera Annual* has commented, "Although Scheler abandoned philosophy for photography, as a photographer he has become a philosopher." *Photographs courtesy Max Scheler, Munich.*

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HERBERT LIST

Of the photographers now working in Germany, List is probably the best known outside his own country. He has traveled over America and worked in London, Paris, Rome, and Greece, where he has taken splendid photographs of scenes and country landscapes, as well as a striking series of portraits of personalities in the worlds of art and fashion. His portrait subjects have included Picasso, Jean Cocteau, de Chirico, and Chagall. His command of lighting he uses to produce unshadowed faces, boldly modeled features revealing the essential characteristics of the subject's personality as would a lucid writer, for the camera to Herbert List is but a substitute for the powerful pen he would preferably wield. *Photographs courtesy Magnum Photos, New York.*

HERBERT LIST, *above:* Colette. *Paris, about 1951.*
left: Ortega y Gasset. *Madrid, about 1953.*

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TONI SCHNEIDERS, Performers. 1957.

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TONI SCHNEIDERS

LIKE OTHER MEMBERS of Germany's post-World War II generation, Schneiders has rediscovered the German photographic tradition of Renger-Patzsch, Wolff, and Salomon. The dozen years of Nazi rule in Germany had drowned this tradition in a sea of make-believe heroics. Once again, photographs are images of truth. Schneiders explores the creative possibilities of miniature photography, seeking an intense but controlled realism that recalls the similar work of his Italian contemporaries. He uses imaginative techniques for dramatic compositions. *Photographs courtesy Toni Schneiders, Lindau-Schachen, Germany.*

SCHNEIDERS
Reflections. 1956.

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WILHELM RAUH

A MECHANIC during the working day, Rauh is a serious-minded photographer and member of the Bayreuth, Germany, Freelance Photo Group at other times. His pictures taken with a miniature camera have been shown in a number of exhibitions since 1954. In a picture of umbrella-carrying townsfolk caught in a blizzard and seen from above, we see a patterning of figures in broad, simple areas, slanting streaks of snow, and moving feet deliberately blurred by a purposely long exposure to convey the impression of movement into the wind. Here the photographer has caught a thick band of motion, rather than stop it dead in its tracks. In contrast is the shuffling figure arrested in its diagonal composition. *Photographs courtesy Wilhelm Rauh, Bayreuth, Germany.*

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WILHELM RAUH, *above:* Extra Spur. 1957.
left: Snowstorm. 1957.

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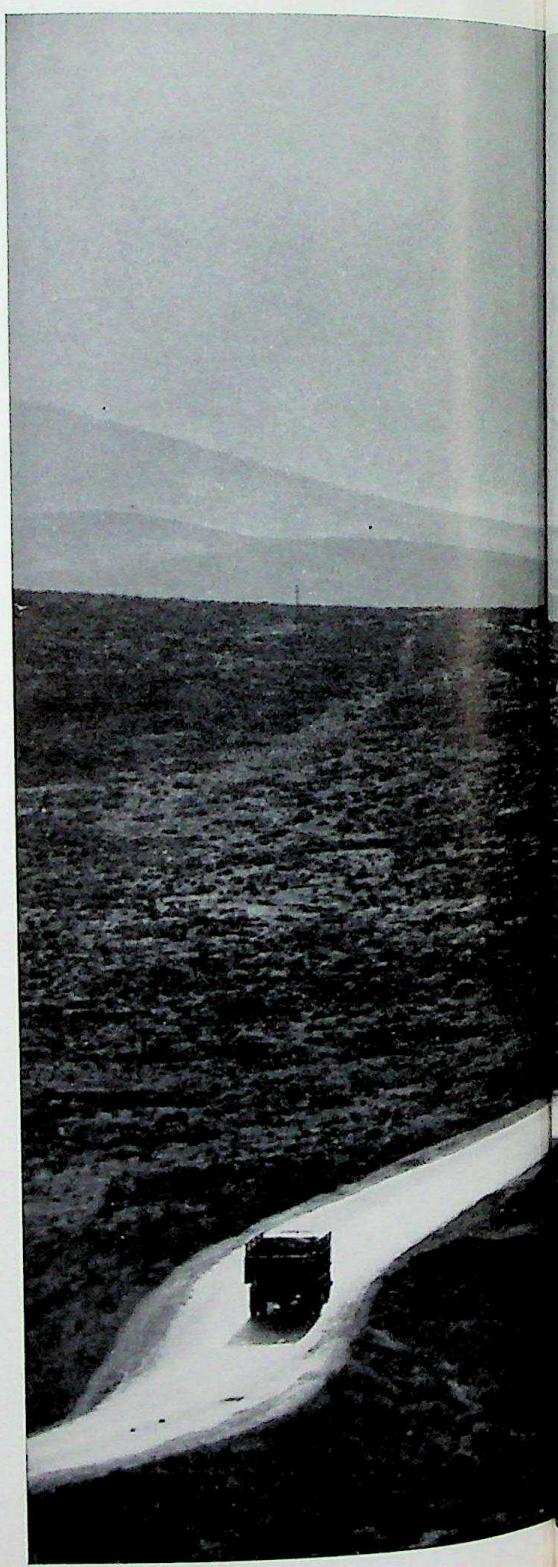
GREECE

DIMITRIOS HARISSIADIS

THE RECOGNIZED LEADER of a small but vigorous new movement in Greek photography. He and his colleagues are determined to show at last a living picture of their country as it is rather than to repeat interminably the sentimental theme of Greece's classic glories. A chemist turned photographer, Harissiadis covered World War II for the Greek General Staff. After photodocumenting the occupation, he became a correspondent of the European press during the guerilla days that followed. His technically proficient photographs are honest, brilliant observations of the people, the cities and the countryside of Greece. *Photographs courtesy Dimitrios Harissiadis, Athens, Greece.*



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DIMITRIOS HARISSIADIS, Road in Greece. 1953.

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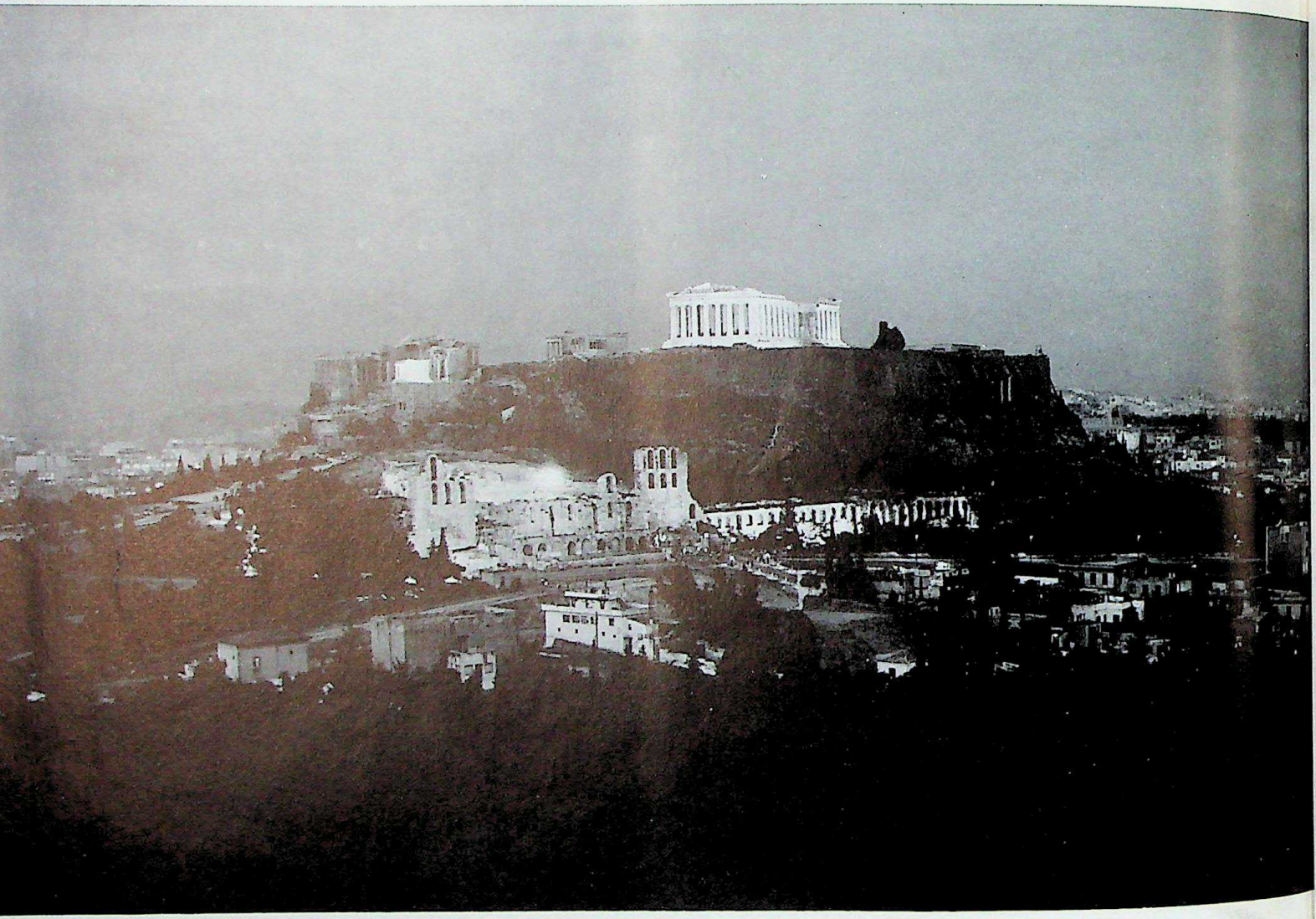

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HARISSIADIS, *below:* Greek Frieze. *1955.*
left: The Acropolis, Athens. *1954.*

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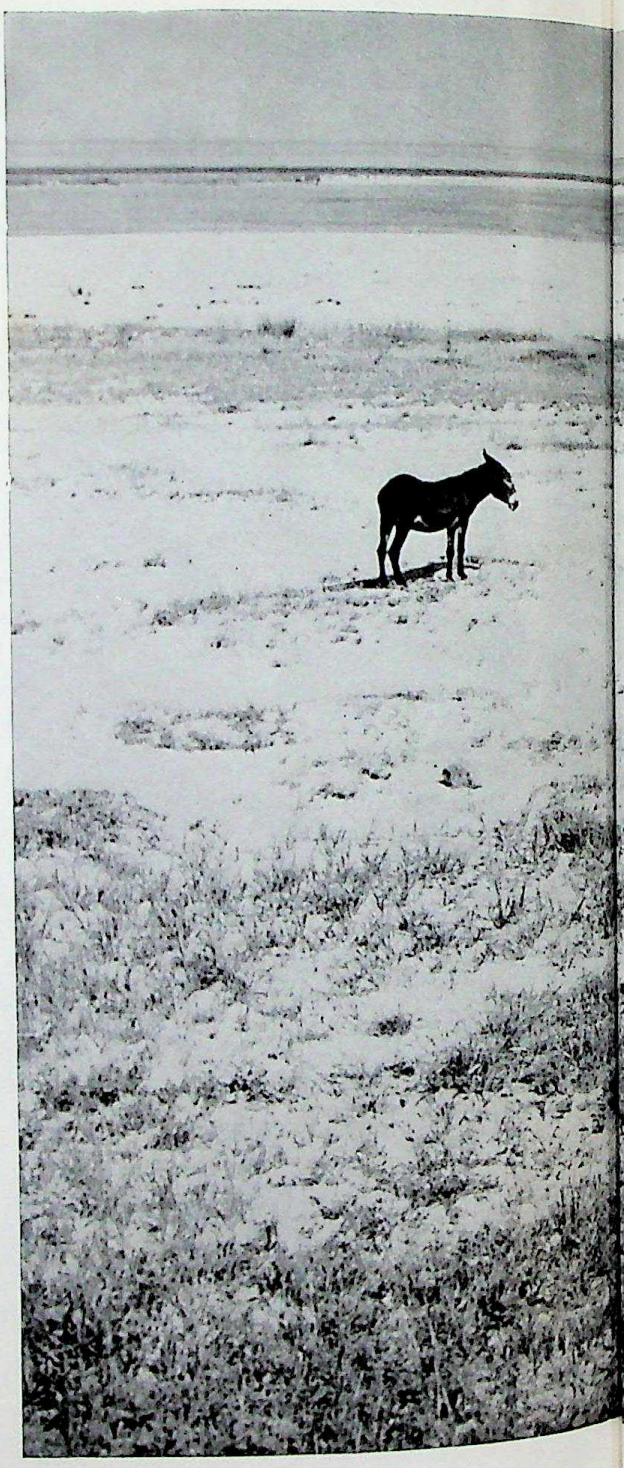

ITALY

TONI DEL TIN

THE RISING GENERATION of Italian photographers, according to del Tin, "feels an urge to lift photography to the level of a modern art form . . . the stamp of this new style is disciplined realism . . . in form severe, in expression natural." Del Tin is no more concerned with technique than most trained photojournalists, but his work is not ordinary photojournalism. An orphan child transfixed by a tombstone, a cellist listening to his own music are shown to us as masterly compositions in basic geometric forms. Of these tense pictures he writes, "I am now learning to understand how much a single image can transmit." *Photographs courtesy Toni del Tin, Venice, Italy.*

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TONI DEL TIN, Sicily. 1954.

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DEL TIN, *below:* Orphan. 1955.
left: Itinerant Musician. 1955.

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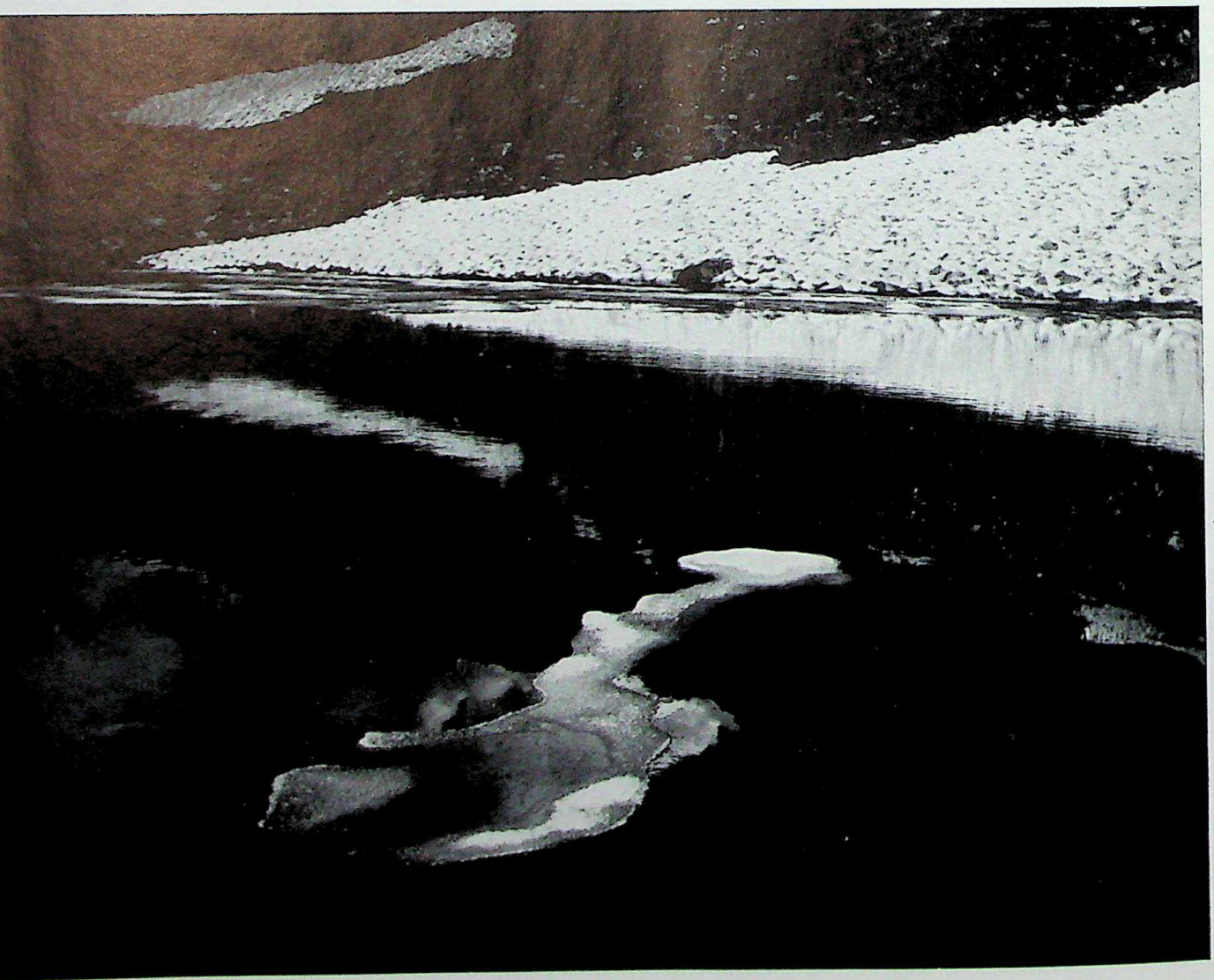
PAOLO MONTI

THIS MILANESE PHOTOGRAPHER also belongs with the Italians who have discovered the values of unsentimental realism and have broken sharply with presenting grandiose pictures of an Italy that existed only in dreams. Recognizing photographic beauty in asphalt street and alpine landscape, he sacrifices detail to emphasize texture and pattern. He is particularly given to bold forms in space, and arrangements of solid black or gray tones with contrasting accents of pure white. Monti abstains from the completely abstract and keeps the appearances of familiar reality while interpreting nature, distorting forms only when thereby he can intensify their poetry and clarify their meaning. *Photographs courtesy Paolo Monti, Milan, Italy.*

PAOLO MONTI, *below:* Alpine Lake. *1954.*
right: Gondola of Death. *Venice, 1956.*



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MONTI, Asphalt. 1956.

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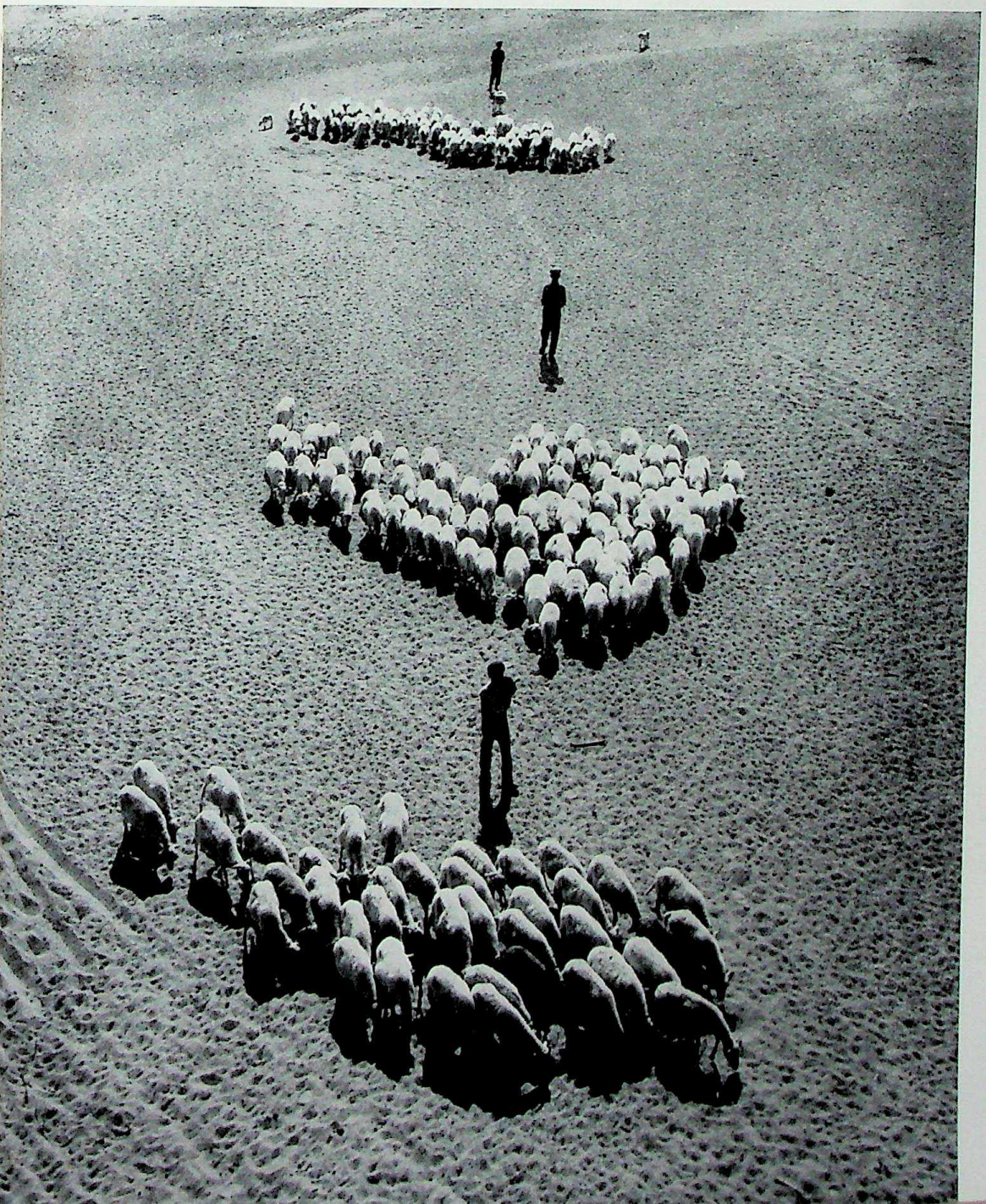
FULVIO ROITER

THE PICTURESQUE GONDOLAS and the hallowed stones of Venice do not receive the attention of Roiter, who photographs his native city in the rain, when sky and sea merge in delicate shades of gray and umbrellas, buildings, and people supply rich black accents to complete his compositions. Spain exerts a tremendous hold over Roiter, who has depicted this seared land and unique people in his book, *Andalousie*. Here reproduced is the land's exciting texture in a forceful composition of three wedge-shaped bands of sheep separated by three young shepherds. In Brazil, Roiter found perfect motifs for the honest, sharp, and controlled "disciplined realism" so characteristic of contemporary Italian photographers. *Photographs courtesy Fulvio Roiter, Venice.*



FULVIO ROITER
Andalusia, Spain. 1955.

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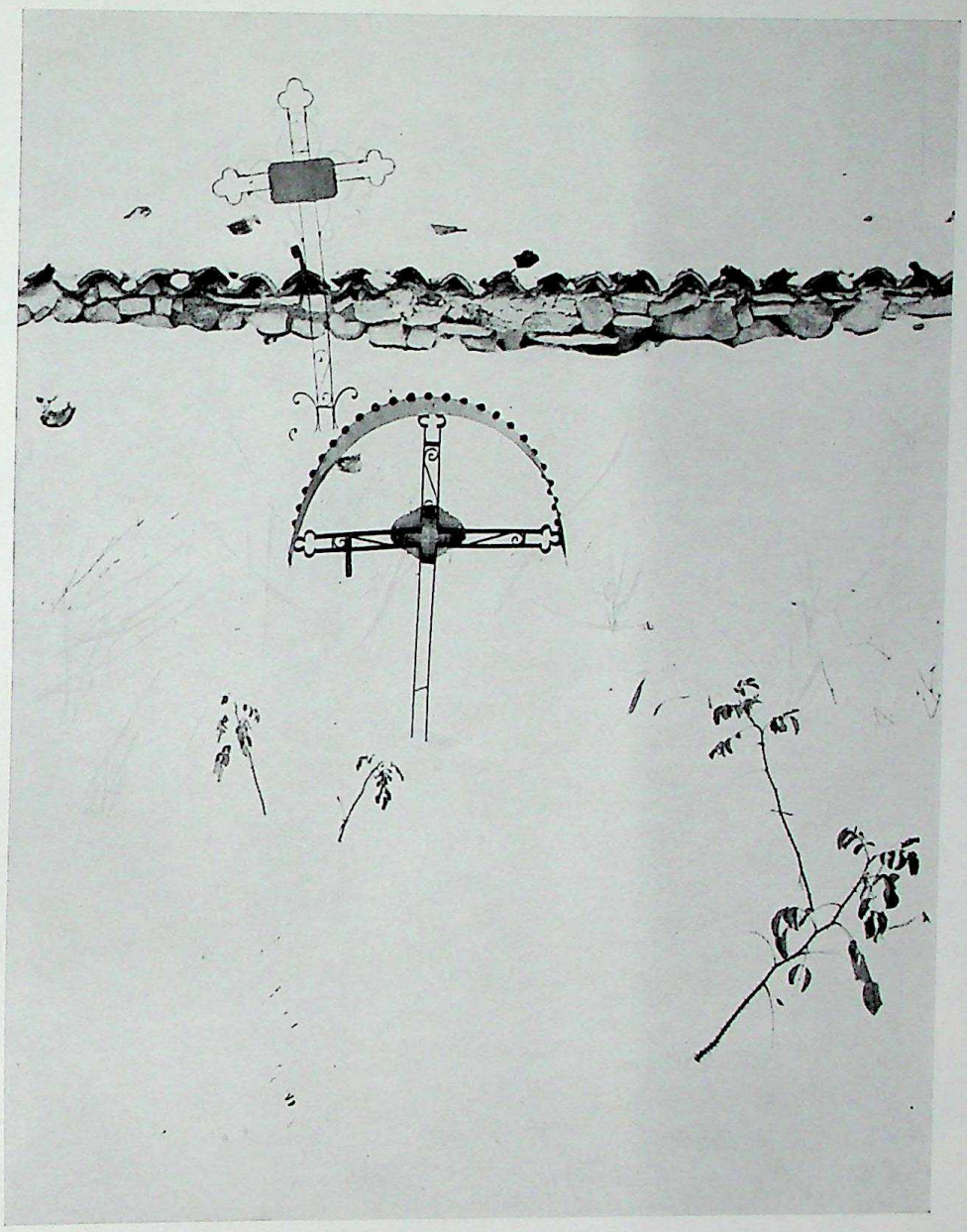

ROITER, *above:* Umbria. 1955.
left: Umbrian Landscape. 1955.

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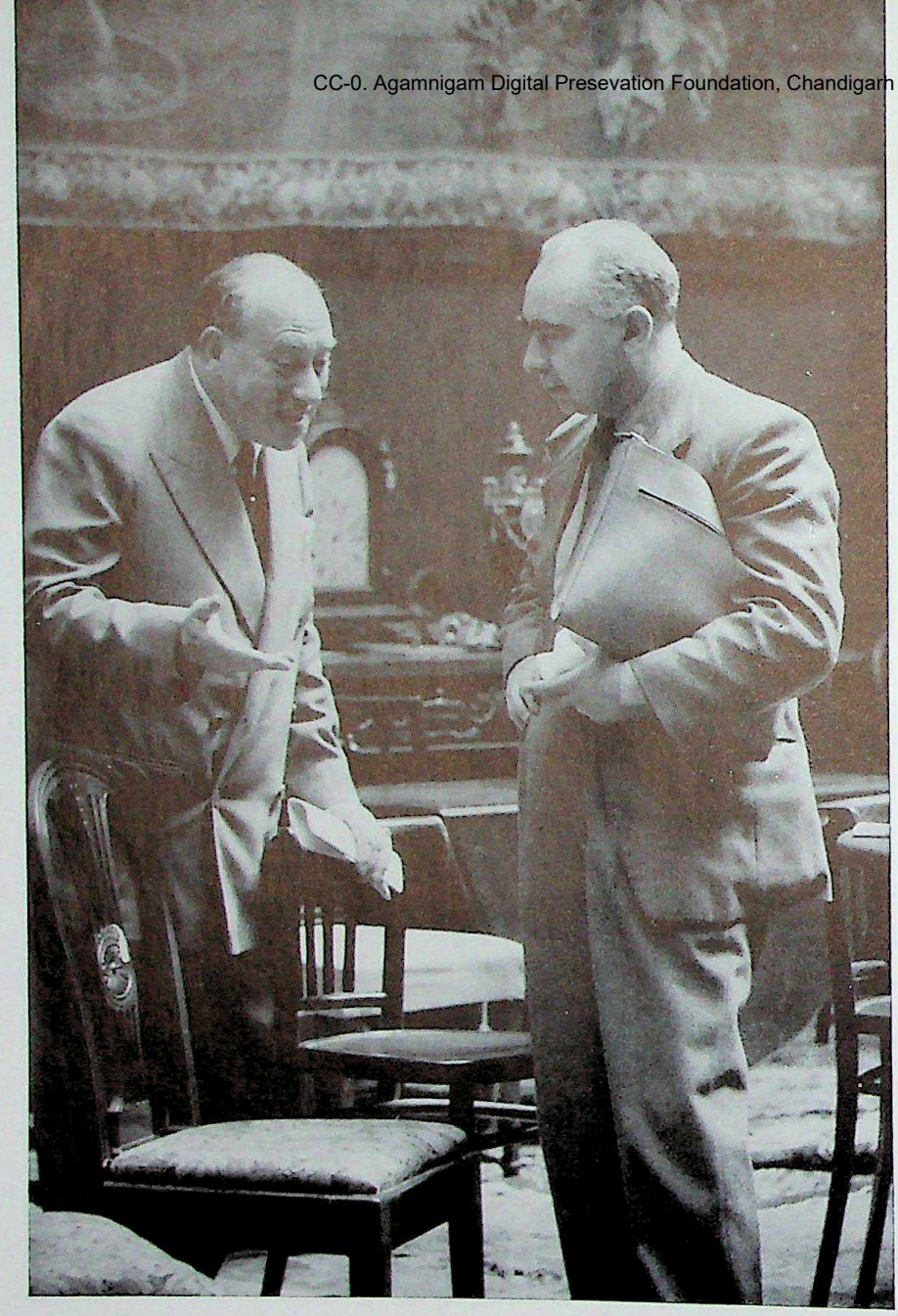

BRIAN BRAKE
left: Sotheby's Auction Rooms. *London, 1955.*
right: Nigerian Royal Tour. *1956.*

NEW ZEALAND

BRIAN BRAKE

A YOUTHFUL NEW ZEALANDER and a member of Magnum Photos who has worked in central Africa, Egypt, England, Russia, India, and China. His pictures are remarkable for the insight they give us into the thoughts and feelings of people at an all-important moment. The sensing of that moment is to Brake, as to Cartier-Bresson, the photographer's most important task. With observers like these, candid photography loses its chance quality and reveals the life around us with subtlety and refinement, nonetheless retaining a sharp, satirical wit, often incongruous and humorous. *Photographs courtesy Magnum Photos, New York.*

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Index

Page numbers in roman type refer to text. *Page numbers in italic type refer to the illustrations.*

Abstract photography, 334, 335, 432, 444, 590
Academy of Fine Arts, Paris, 35
Academy in Rome, 174
Academy of Sciences, Paris, 35, *44-45*, 78, 102, 131
Adam-Salomon, 154-55
Adams, Ansel, 318, 324, 364-65, 366-75, 481
Adams, John Quincy, 64, 74
Adamson, John, 130
Adamson, Robert, 94-95, *96-101*
Aerial photography, 143, *150-51*, 282, 335, 544, *546-47*, *550-51*
Agfacolor film, 511
Albert, Prince Consort, 53, 131, 155, 163, 175, *187*
Alberti, Leon Battista, 13-14
Albright Art Gallery, Buffalo, 264
Albumen process, 102-3, *104-5*, 142, *148-49*, 234
Alcohol, 103
Alhazen of Basra, 13
Allan, Sidney, see Sadakichi Hartmann
Alvarez-Bravo, 482
Ambrotype, 103-4, *106*, *110*, *126*, 189, 240
American Amateur Photographer, The, 261
American Federation of Arts, 480
American Institute, New York, 125, 189
American Museum of Natural History, 390
American Place, An, 269
Ammonia, 16
Anderson Gallery, New York, 266
Anderson, Marian, 497, 498, 505
Animals in Motion, 38, 224-25, 226-27, 228
Annan, J. Craig, 95
Ansco, 251
Anthony, Edward, 63, *66-67*, *132*, *140*
Anthony Company, E. & H. T., New York, 131, *134-35*, 191, 193-94, 250-51
Aquatints, 50, *54*
Arago, D. François, 29, 35-36, *44-45*, 78, 106
Archer, F. Scott, 81, 103, *106*
Arizona Highways magazine, 366
Armory Show of 1913, New York, 262
Art Academy, Berlin, 404
Art Institute of Chicago, 280, 322, 582
Art photography, 125, 175, *186*, 260-61, 288, 312-13
Art Treasures exhibition, Manchester, 175
Asphaltum, 25
Associated Press, 419
Atget, Eugène, 288, 289, 290, *291-95*
Atlantic Monthly, 131, 192
Abbott, Berenice, 290, 335

Baca-Flor, Carlos, 287
Background, 52, 239, *496-97*
Barbaro, Daniello, 14
Barnack, Oscar, 335
Barnard, C. N., 191
Barnard, George M., 192
Bates, Joseph L., 137
Baudelaire, Charles, 142, 143, *157*
Bauhaus, Germany, 334
Bayard, Hippolyte, 12
Bayer, Herbert, 336
Beard, Richard, 51-53, 81
Beato, F., 107, *121*
Beaton, Cecil, 543
Beaverbrook, Lord William, 498
Bemis, Samuel, 63, *64*
Benser, Walter, 529
Benton, Thomas Hart, 63, 64, *66*
Berliner Tageblatt, 419
Berlioz, Louis, 143
Bernhardt, Sarah, 143, *145*, 239, 240, *246*, 312
Bianchi, Barthelmy-Urbain, *48*
Binocular vision, 130
Biow, Herman, 53
Bischof, Werner, 561, *574-77*
Bisson, Auguste R., 104, 105-6, *116-17*
Bisson, Louis A., 104, 105-6, *116-17*
Bitumen of Judaea, 24, 25
Blanquart-Evrard, L. D., 103, *111*
Blueprint, 82, 544
Blumenfeld, Erwin, *515*
Boston Museum of Fine Arts, 266
Boulevard, Le, 154
Bourke-White, Margaret, 456-57, *458-69*, 561
Bouton, 36
Bouton, Charles, 50
Brady, Mathew B., 63-64, 188-89, *190-96*, *203*, 205, 238, 285, 290
Brady-Handy collection, 194
Brady's Galleries, 189-91, 192, 193, *194-95*
Brake, Brian, *616-17*
Brancusi, Constantin, 262
Brandt, Bill, *568-70*
Braque, Georges, 262, 290
Brassai, 404-5, *406-17*
Brewster, Sir David, 130-31, *132*, *137*
British Journal of Photography, 250
British Museum, 17
Bromine vapors, 38
Browning, Robert, 166
Bullock, John G., 261
Butler, Benjamin F., 194

Cabinet portraits, 238, *244-45*
Calamity Jane, 212
Caldwell, Erskine, 458
California School of Fine Arts, 366
Callahan, Harry, 432, *433-43*
Campbell, Sir John, 107
Calotype, 79, 81, 82, 84, 86-87, 89, *91-93*, 94, *96-98*, *100*, 102, 103, *111*, 130, 174, 251
Camera, binocular, 131; box, 251-52, 280; *carte-de-visite*, 155, 159; daguerreotype, 36, *47-49*, 50, 52, 53, 63; detective, 251, *256-57*; Giroux, 36, 50, 52, 53, 63; Kodak, 9, 252, *253-56*, 315, 390, 419; Leica, 335, 336, 377, 380, 390, 406, 419, 481, 482; miniature, 335-36, 419; Minox, 281; mirror, 51, 63; Rolleiflex, 380, 406; stereoscope, 131-32, 205, 206; Voigtländer, 53, 406
Camera Club, The, 261, 264
Camera lucida, 16, *22-23*, 79, *81*
Camera Notes, 261
Camera obscura, 13, *14-16*, 17, *18-20*, 24, 25, 27, 35, 36, 79
Camera Work, 261, 262, 264, 265, 281, 304
Cameron, Henry, *168*
Cameron, Julia M., 166-68, *169-73*
Candid photographs, 251, 257, 312, 419, 561, 616
Capa, Cornell, *584-85*
Capa, Robert, 482, 561, *578-81*, *584*
Cardano, Girolamo, 14
Carjat, Etienne, 154-55, *157*
Carlyle, Thomas, 166, 167, 168, *169*
Carroll, Lewis, 175, *182-83*
Carte-de-visite, 132, 155, *158-65*, 189, 191, 238, *241-42*
Carter, A. C. R., 281
Cartier-Bresson, Henri, 480-82, *483-95*, 561, 579, 616
Cary, Elizabeth, 264
Cass, Lewis, 64, *66*
Casseres, Benjamin de, 265

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Castor oil, 251
Cendrars, Blaise, 378
Cézanne, Paul, 262, 323
Chagall, Marc, 596
Charities and the Commons, 304
Charivari, 143
Chase, William M., 240
Chemist, The, 103
Chester, Samuel C., 191
Chevalier, Charles, 36, 57
Chevreul, Marie E., 144, *152-53*
Chiang Kai-shek, Madame, 458
Chiaroscuro photographs, 155
Chicago Historical Society, 64
Chicago, University of, 304
"Chim," 482, 561, 579, *582-83*
Chirico, Giorgio de, 596
Chloride of gold, 38, 103
Chlorine vapors, 38
Chrétien, Gilles-Louis, 16, *21*
Church, Fred, 253
Churchill, Sir Winston, 458, *497-98*, 499
Claudet, Antoine, 51, 52, *80*, 81
Cliché verre, 142-43, *148-49*
Coburn, A. L., 265, 280
Cocteau, Jean, 596
Collen, Henry, 81
Collier's magazine, 390
Collins, Marjorie, 351
Collodion, *see* wet-collodion process
Color photography, 132, 406, 510-12
Columbia University, 63
Columbian Exposition, Chicago, 225
Composite photography, 175, *176-78*, *184-87*, 261
Condé Nast, 282
Cook, George F., 191
Coombs, Fred, 69
Coonley, J. F., 191
Copie de gravure, 24-25
Corot, Camille, 142-43, *148-49*
Corsini, Harold, 352, 361
Creative photography, 285, 334, 511, 561-62
Crowninshield, Frank, 282
Cunningham, Imogen, 324, 335

Dagron, M., 144
Daguerre, Louis J. M., 12, 24, 25, 27, *28-29*, *34-36*, *37-49*, 50, 51, 52, 62, 65, 78, 79, 106
Daguerreotype, *40-45*, 53, *56-61*, 64, *66-75*, 78, 80, 95, 102, 103, 104, 105-6, 124, *125*, *127-28*, 130, 131, 133, *136-39*, 142, 188, 189, *195*, 204; acceptance, 36-38, 50-65; announcement, 35-36; camera, 36, *47-49*, 50, 52, 53, 63; color, 62; galleries, 63-65, 67, 70; plates, 25; portraits, 37-38, 51-53, 62-65, 81, 189; process, 34-35, 65; views, 50-51, 53, 63
Darkroom red light, 52
Darwin, Charles, 166, *169*, 175
Daubigny, Charles, 143
Daumier, Honoré, 143, *150*
D'Avignon, François, 189, *190*
Davy, Sir Humphry, 16, *23*, 79
Debenham, W. F., *251*
Degotti, I. E. M., 36
Delacroix, Eugène, 143, *162*
Delano, Jack, 351, 356
Delaroche, Paul, 142
Della Porta, Giovanni B., 14, 35
Del Tin, Toni, *606-9*
Demachy, Robert, 261, 265, 281
Demeney, G., 225
Demuth, Charles, 266
Deutsche Werkbund, 335
De Young Museum, San Francisco, 324
Dietrich, Marlene, 419
Diorama, London, 36; Paris, 25, 35, 36, 37, *38-39*
Dippel's animal oil, 25
Disdéri, Adolphe E., 155, *158-62*
Documentary photography, 288-90, 298, 304-6, 351, 405-6, 432, 444, 482, 602
Dodgson, Charles L., *see* Carroll, Lewis
Doisneau, Robert, 376, *377-87*
Doré, Paul, 143
Double exposure, 175, 335
Dove, Arthur, 262, 266
Draper, John W., 62-63, *65*, 188
Duboscq, Jules, 131
Duboscq and Soleil stereoscope, 131, *137*
Du Camp, Maxime, 103, *111*
Duchamp, Marcel, 228, 237, 290
Du Hauron, Louis D., 511
Dumas, Alexandre, 143, *147*
Duncan, David Douglas, 388-90, *391-403*
Duncan, Isadora, 312, 320
Dürer, Albrecht, 13, *17*
Duse, Eleanora, 312, 320
Dyer, William B., 261

Eakins, Thomas, 225-28, *232-37*
Eastman, George, 250-51, *252-55*
Eastman House, 105, 189, 204
Ecole des Beaux-Arts, Budapest, 404
Edison, Thomas A., 225
Edwards, J. M., 63
Einstein, Albert, 497, *502-3*
Eisenhower, Dwight D., 498
Eisenstaedt, Alfred, 336, 418-19, *420-31*, 561
Ektachrome film, 511
Elisofon, Eliot, 480, 512, *516-18*
Elsken, Ed van der, 470, *471-79*
Emerson, P. H., 261, 265, 365, 481
Emulsions, *148-49*, 251, 545
Etchings, 17, 23, 50, 418
Ether, 103, 104
Eugene, Frank, 261
Evans, Frederick H., 265
Evans, Walker, 351, *356-57*, 432, 434, 482
Exposure, 37-38, 51-52, 62-63, 94, 102, 103, 106, 167, 211, 225, 433, 434, 511

"F64," 324, 366
Falk's Gallery, 238, *244*
Faraday, Michael, 79
Farden, George R., 205, *208-9*
Farm Security Administration, 350-52
Feininger, Lyonel, 336
Fenn, Albert, *540*
Fenton, Roger, 106, *118-21*, 290
Ferrier and Sulier, *133*
Ferrotypes, *see* tintypes
Field, H. B., *110*
Fillmore, Millard, 64
Film und Foto exhibition, Germany, 335
Fitzgibbon, J. W., 204
Fizeau, Hippolyte, 38
Flash photography, 296
Flaubert, Gustave, 103
Focus, 167, 261, 313, 323, 419, 511
Fontallard, Gérard, *41*
Fortune magazine, 366, 457
"Fotoform" group, 590
Fox Talbot, Henry, 12, 15, 25, 35, 52, 78, 79, *80-84*, *86-91*, 94, 103, 130
Frederick's Gallery, 238
Friedmann, Andrei, *see* Robert Capa
Friedmann, Cornell, *see* Cornell Capa
Frith, Francis, 104, *112-15*
Fuguet, Dallett, 261-62

Gallic acid, 79
Gandhi, Mahatma, 457, *464-65*
Garbo, Greta, 312, 321
Gardner, Alexander, 190-93, *198-99*, *201-3*, 205, 389
Gardner, James, 191
Garfield, James A., 194
Garo, John H., 497
Gaudin, Marc A. G., 48
Gautier, Théophile, 51
Gelatin dry plates, 103, 250-51
Gemma-Frisius, Rainier, *14*
Genthe, Arnold, 312, *313-21*
George VI, King of England, 498
Gernsheim, Alison and Helmut, 12, 25, 51, 280
Girault de Prangy, Joseph, 51
Giroux, Alphonse, 36, *41*, *47*, 53
Glass, frosted, 14; photograph on, 85; spectacle, 14
Godowsky, Leopold, 511
Goodyear, A. Conger, 189
Goro, Fritz, 336
Goupil-Fesquet, Frederic, 50
Graham Fellowship, 434
Great Exhibition, London, 65
Grevedon, Henri, 37

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Grevin, A., 144
Gropius, Walter, 336
Guggenheim Fellowship, 324, 366
Gum-bichromate process, 261, 265, 282, 284-86
Guncotton, 103
Gunther, John, 390
Gurney, Benjamin, 64
Gurney, Jeremiah, 64, 204, 238, 242
Gurney's Daguerrean Saloon, 64, 70
Guyot, 19

Haas, Ernst, 512, 524-28
Haid, Johann J., 20
Halasz, Gyula, see Brassai
Hale, Luther H., 70
Hall, Basil, 16, 23
Halle, University of, Germany, 13
Halsman, Philippe, 336
Handy, Levin C., 194
Harissiadis, Dimitrios, 602-5
Hartley, Marsden, 262, 266
Hartmann, Sadakichi, 265, 281
Hartshorn, S. W., 72
Hawes, Josiah J., 65
Hayden expedition, 206, 209-11
Heliography, 15, 17, 24-27, 32
Herschel, Sir John, 12, 15, 35, 78, 79, 81, 82, 85, 102, 166, 171
Hesler, Alexander, 124, 125-29
Hill, David O., 94, 95-101, 108, 143
Hine, Lewis W., 304-11
Holmes, Oliver W., 64, 131-32, 136-37, 192
Horan, James D., 189
Huffman, Laton A., 211-13, 220-23
Hunt, Robert, 17
Hyposulphite of soda, 12, 35, 79, 81

Image, inverted, 13, 15; latent, 84; over-all, 324, 364; permanent, 24, 34-35, 103; reversed, 35, 38, 48, 56, 63, 73, 75; silver, 64, 75
Infrared photography, 511, 513
Ingres, J. A. D., 143, 162
Instantaneous photography, 107, 133, 251
Institute of Design, Chicago, 335, 434, 444, 587
International Exhibition, Vienna, 239
Intimate Gallery, 266
Iodide of iron, 103
Iodine, 25, 27, 35
Iris diaphragm, 24
Irwin, Will, 315

Jackson, Andrew, 189, 195
Jackson, Edward, 205
Jackson, William H., 205-6, 209-11, 213, 215-19
Japanese photography, 560, 562, 563-67
Jefferson, Joe, 239, 242
Joel, Yale, 512, 522-23
Johnson, John, 63
Journal Illustré, Le, 144

Karsh, Yousuf, 496-98, 499-507
Kasebier, Gertrude, 261
Katayama, Yasumasa, 567
Keetman, Peter, 590-92
Keiley, Joseph T., 261-62
Kepes, Gyorgy, 586-89
Kepler, Johannes, 14
Kerfoot, J. B., 265
Kertesz, André, 404
Kessel, Dmitri, 512, 539, 541
Kilburn, W. E., 133
King expedition, 205
King, W. L. Mackenzie, 497
Kircher, Athanasius, 15
Kirkland, Wallace, 536-37
Knox, David, 191
Kodachrome film, 511
Kossuth, Louis, 64, 67
Kurtz, William, 238-39

La Farge, Father John, 458
Lamp, The, 352
Landy, Louis H., 191
Lange, Dorothea, 351, 352
Langenheim, Frederick and William, 49, 82, 90-91, 131
La Roche, Tiphaigne de, 13
LaRoche, Silvester, 81
Lee, Robert E., 193, 197
Lee, Russell, 351, 354
Le Gray, Gustave, 103, 107
Leen, Nina, 512, 533
Lemaître, A. F., 25
Lenses, achromatic, 38; bubble-proof, 562; convex, 14; normal, 545; Petzval, 38, 49, 51, 53; short-focal-length, 546; telescopic, 545, 546, 562; wide-angle, 544, 545, 562; Zeiss, 315
Leonardo da Vinci, 14
Lerebours, N. P., 49, 50, 51, 54
Lerner, Michael, 390
Le Secq, Henri, 92
Lester, C. E., 189
Lhôte, André, 482
Library of Congress, 316, 351
Life magazine, 366, 389, 390, 419-20, 456-58, 480, 482, 498, 584
Lighting, 13, 15, 144, 154, 239, 313, 322, 323, 335, 496-97, 511, 545
Lincoln, Abraham, 125, 190, 198
Linked Ring, London, 262
List, Herbert, 594, 596-97
Lithography, 24, 37, 50, 60-61, 63, 82, 95, 143, 150, 164-65, 190, 239-40, 243, 418
Little Gallery, 262, 264
Little Holland House, London, 167
London, Emmanuel, 136
London Crystal Palace, 65, 137, 189
London Evening Mail, 264
London Photographic Exhibition, 265
London Salon, 281, 323
London Stereographic Company, 131
Longfellow, Henry W., 124, 125, 166, 170
Look magazine, 390
Lopez, Narciso, 64
Lumière Brothers, 225

Mace, Jim, 239
MacGlashon, A., 108
Machines pour dessiner, 13
MacLeish, Archibald, 351
MacOrlan, M., 405
Maddox, Richard L., 250, 251
Maeterlinck, Maurice, 265
Magic lantern, 144, 225
Magnesium, 296
Magnum Photos, 482, 560, 574, 579, 582, 584, 594, 596, 616
Manet, Edouard, 143, 145, 262
Mann, Thomas, 419
Mannes, Leopold, 511
Marey, E. J., 225, 228
Martens, Friedrich von, 51, 52-53
Marin, John, 262, 266, 278
Martin, Paul, 288
Mascher, J. F., 131, 133
Massachusetts Institute of Technology, 587
Matisse, Henri, 262-64
Matter, Herbert, 521
Maurisset, A., 61
Maxwell, James C., 511
Mayall, John E., 53, 81, 131, 155, 163
Mayer, Grace, 298
Mayer and Pierson, 160-61
Mayne, Roger, 571-73
Meissonier, Ernest, 225
Melainotypes, see tintypes
Mellon, Andrew, 312
Menken, Adah I., 239, 246
Mentienne, M., 41
Mercury, 34-35, 38, 64
Miami, University of, 390
Midorikawa, Yuichi, 562-63
Mies van der Rohe, Ludwig, 336
Mili, Gjon, 512, 530-32
Miller, Henry, 406
Millet, François, 143
Miniature photography, 335-36, 419, 546, 561, 599, 600
Mirecourt, E. de, 143
Mitchell Kennerly's Gallery, 266
Moholy-Nagy, Laszlo, 334-35, 340-45, 432, 444, 587, 590
Monet, Claude, 143
Monti, Paolo, 610-12
Mora, José Maria, 238, 239, 245
Moraine, R. de, 164-65
Moran, Edward, 240

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Morse, Samuel F. B., 37, 42, 63, 65, 188, 189
Motion picture photography, 9, 225-28, 406, 546
Muggeridge, Edward J., see Eadweard Muybridge
Mukai, Toshiji, 564-65
Mulnier, Jules, 156
Museum of Modern Art, New York, 281, 285, 351, 365, 406, 482
Museum of the City of New York, 298
Muybridge, Eadweard, 224-25, 226-30
Mydans, Carl, 351

Nadar, 143, 144-47, 149-53, 154-55, 252, 254, 285, 290
Nadar, Paul, 144, 152-53
Napoleon III, 105, 116, 143, 155, 160-61
Nast, Thomas, 239
National Academy of Design, New York, 37
National Daguerrean Gallery, New York, 64, 67
National Gallery of Scotland, 95
National Geographic magazine, 390
National Museum, Munich, 42
Negative-positive process, 25, 35, 78, 82
Negatives, glass, 65, 103; paper, 12, 57, 78, 83-84, 90, 92, 95, 97-98, 103, 251; retouched, 175, 313; washing, 16, 79
Nehru, Jawaharlal, 458, 497, 504
New Bauhaus, Chicago, see Institute of Design
Newhall, Beaumont, 70, 285, 365
Newhall, Nancy, 285, 366
New York Evening Sun, 282, 296-97, 300
New York Times, The, 264
New York Tribune, The, 297
New York University, 304
Niepce, Claude, 17, 25
Niepce, Isidore, 24-27, 29, 34-35, 36
Niepce, Joseph Nicéphore, 12, 14, 15, 17, 24-25, 26-33, 35, 102
Nixon, Herman, 351
Notman, William, 107, 122-23

Orozco, José C., 323
O'Sullivan, Timothy H., 191, 193, 200, 203, 205, 210-12, 213, 214-15

Page, William, 188
Palace of Fine Arts, Mexico, 482
Pan-American Airways, 390
Paper, grainy, 78; mat, 313; silver chloride, 79; waxing, 79
Paper photography, 125
Paris Match magazine, 482
Paris Salon, 281
Parks, Gordon R., 351, 512, 519-20
Pavlova, Anna, 312
Peale, Rembrandt, 21
Pencil of Nature, The (Fox Talbot), 79, 81, 86-87
Penn, Irving, 512, 542
Pennsylvania Academy of Fine Arts, 226
Pennsylvania, University of, 226
Perpignan Museum, France, 44-45
Petit, Pierre, 155, 162
Petzval, Josef M., 38, 49, 53
Philadelphia Centennial, 211
Photochemistry, 81
Photodrawing, 586, 588-89
Photogenic drawing, 15, 79, 83-84
Photogram, 335, 340, 432, 587
Photographic Society, London, 81
Photographie de Deux-Mondes, 155
Photogravure, 17, 261, 264
Photojournalism, 53, 58, 144, 192, 296-98, 336, 351, 388-90, 419-20, 456-58, 481, 568, 574, 602, 606
Photomontage, 175, 335
Photo Secession, 261-62, 264, 281, 304
Physionotrace, 16, 21
Picabia, Francis, 262
Picasso, Pablo, 262, 290, 390, 405, 530-31, 596
Pictorial photography, 261, 262, 264, 322, 419
Picture book, 473
Picture Post magazine, 482
Pierce, Franklin, 64
Pius XII, 458
Plates, copper, 25, 27; curved, 51, 53; dry, 211, 250; glass, 17, 25, 27, 106, 250; metal, 17; oversize, 37, 53, 167; pewter, 25; silvered, 25, 27, 35, 51
Plumbe, John, 63
Plumbe National Daguerrean Galleries, 63
Plumbeotype, 63
Poe, Edgar Allan, 72
Point de vue, 24-25
Pollack, Peter, 281
Portraiture, 15, 21, 37-38, 51-53, 62-64, 65, 81, 103, 174, 175, 189-90, 238-41, 282, 312-13, 316, 322, 324, 418, 481, 496-98, 596
Positives, 35, 103
Potassium, bromide, 102; chlorate, 296; iodide, 79, 102
Potoniée, Georges, 25
Presbytery Hall, Edinburgh, 95
Prévert, Jacques, 405
Prevost, Pierre, 36
Prinsep, Thoby, 167
Prints, carbon, 125; combination, 175, 176-78, 184-87, 261; contact, 16, 79, 167, 324; gum, 282, 284-86; platinum, 232-33, 261, 283
Profileograph, 21
Projection, 144, 225, 228
Props, 73, 164-65, 239, 240, 313
Pure photography, 177, 226, 261
Pyrogallic acid, 81
Pywell, William R., 191

Rangefinder, 545
Rapho-Guillumette agency, 560
Rauh, Wilhelm, 600-601
Ray, Man, 290, 335, 432, 587
Rayographs, 335
Reade, Joseph B., 79
Realistic photography, 177, 282, 324, 334, 335, 366, 433, 590, 613
Redfield, Robert S., 262
Rejlander, Oscar G., 174-75, 176-82
"Rembrandt photography," 239
Remington, Frederic, 225
Renger-Patzsch, Albert, 334, 335-39, 590, 599
Renoir, Auguste, 262
Renoir, Jean, 482
Renou et Colle Gallery, Paris, 405
Révolution Surrealiste, La, 290
Richebourg studio, Paris, 51
Riis, Jacob A., 296, 297, 298-303, 304
Riis, Roger W., 298
Rivera, Diego, 323
Robinson, Henry P., 175-77, 184-87
Robinson, Ralph W., 185
Roche, T. C., 191, 193
Rockefeller, John D., 312
Rockefeller, Nelson, 390
Rodin, Auguste, 262, 281, 284
Roiter, Fulvio, 613-15
Roosevelt, Franklin, 458, 498
Roosevelt, Theodore, 212, 281, 297, 312
Root, M. A., 65
Rosskam, Edwin, 351, 352, 360
Rosskam, Louise, 352, 360
Rothstein, Arthur, 351, 353
Rotkin, Charles, 359
Rousseau, Henri, 143, 262, 290
Royal Academy, London, 81, 174
Royal Academy of Art, Budapest, 587
Royal Photographic Society, London, 12, 16, 17, 23, 79, 102, 167, 177, 269
Russell, Charles, 225

Sachse, Louis, 53
St. Victor, Niepce de, 102, 105
Salomon, Erich, 336, 346-49, 419, 561, 599
Salt, 16, 34-35, 79, 102
Sand, George, 143, 146
San Francisco Art Association, 225
Sarony, Napoleon, 238, 239, 240-47
Sarony, Oliver, 239
Sartain, John, 65
Saturday Evening Post magazine, 390
Scheele, Carl W., 16
Scheler, Max, 593-95
Schneiders, Toni, 598-99

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Schulze, Johann Heinrich, 13, 19
Schutze, Eva W., 262
Scientific photography, 511, 544, 545, 548-59, 561
Scott Archer, F., see Archer, F. Scott
Scovill Manufacturing Co., 109, 251
Seavey, L. W., 239
Segonzac, Andre, 405
Selfridge expedition, 205, 210
Senefelder, Alois, 24
Seymour, David, see "Chim"
Shahn, Ben, 351, 355, 594
Shaw, George Bernard, 265, 280, 281, 497, 498, 507
Sheeler, Charles, 335
Shutter, 8, 225, 252
Sibelius, Jean, 497, 500
Siegel, Arthur, 512, 534-35
Silhouette, 16, 21
Silk, 163, 266
Silver chloride, 79; gallonitrate, 81; iodide, 27, 103; iodine, 34-35; nitrate, 16-17, 79, 102, 103; salts, 13, 16, 25, 27, 79, 102
Siqueiros, Alfaro, 323
Siskind, Aaron, 444, 445-55
Slides, 297
Smith, Bradley, 514
Smith, F. Hopkinson, 240
Smith, Hamilton L., 241
Sochurek, Howard, 538
Societé française de photographie, 406
Society of Amateur Photographers, 261
Soft focus, see focus
Southworth, Albert S., 63, 189
Southworth and Hawes Gallery, Boston, 64-65, 71, 74-75, 136
Standard Oil of New Jersey, 351-52, 355
Stanford, Leland, 224-25, 227
State Museum of Guadalajara, Mexico, 323
Steichen, Edward, 261, 262, 280, 281-87, 335
Stein, Gertrude, 265
Steinbeck, John, 351
Steinberg, Saul, 376
Stelzner, Carl F., 53, 58-59
Stereograph, 125, 131-32, 139-41, 210
Stereoscope, 130-31, 132-33, 136-39, 141
Stereoscopic cards, 132-33, 135, 192, 211
Stieglitz, Alfred, 260-61, 262-79, 280, 281, 286, 288, 365, 366, 481
Stieglitz, Georgia O'Keeffe, 262, 266, 269, 276-77
Stirling, Edmund, 262
Straight photography, see realistic photography
Strand, Paul, 266, 432
Strauss, John F., 262
Stroboscope light, 545
Stryker, Roy E., 350-55
Sumner, Charles, 124

Taft, William H., 281, 312
Talbot, Henry Fox, see Fox Talbot
Talbotypes, see calotypes
Tanuma, Takeno, 566
Tennyson, Alfred, 166-68, 170
Terry, Ellen, 167, 172, 312
Thompson, Warren, 131, 138-39
Time magazine, 366
Tintypes, 191, 199, 240-41, 248-49
Today magazine, 41
Tournachon, Adrien, 143
Tournachon, Gaspard F., see Nadar
Tournachon, Paul, 144
Trollope, Anthony, 166
Tugwell, Rexford, 350
Tyler, John, 64

Underwater photography, 545, 548, 551, 556-57
Underwood and Underwood, 141
U. S. Camera Annual, 594
Utrillo, Maurice, 290

Vachon, John, 351, 352, 358
Van Buren, Martin, 64, 67
Vance, Robert H., 204, 206-7
Van den Acker, 160
Van Dyke, Willard, 324
Vanity Fair magazine, 282
Vanloo, Charles, 20
Vasari, Giorgio, 13
Venturi, J. B., 14
Vernet, Horace, 50, 162
Victoria, Queen of England, 52, 131, 137, 155, 163, 175
Vogue magazine, 282
Voigtländer, F. F. von, 49, 53

Wagner, Richard, 143
War photography, 57, 106-7, 118-21, 190-94, 198-203, 388-89, 390, 391-403, 457-58, 568, 578, 579, 580, 582, 583, 584, 602
Watts, George F., 166, 167, 172
Waxed-paper process, 103, 107, 174
Webb, Todd, 355, 362-63
Weber, Max, 262
Wedgwood, Thomas, 16, 23, 79
Weston, Brett, 323, 324, 326, 335
Weston, Charis Wilson, 324
Weston, Cole, 326
Weston, Edward, 322-24, 325-33, 335, 366, 432
Wet-collodion process, 81, 103-5, 106-9, 112-21, 125, 127, 143-44, 146-47, 149-53, 156-57, 171, 174-75, 189, 198-99, 201-3, 204, 206-8, 209, 210-12, 215-19, 221, 224-25, 226-27, 236-37, 239
Wheatstone, Sir Charles, 130
Wheeler expedition, 205, 212, 214-15
Whipple, John, 64
Whistler, James A. M., 261
White, Clarence, 262, 280, 285
Wilde, Oscar, 239, 247
Wilson, Woodrow, 312
Wolcott, Alexander S., 51, 63, 81
Wolcott, Marion P., 351
Wolff, Paul, 336, 599
Wollaston, William H., 16, 22, 79, 81
Woodbury, D. B., 191
Wright, Frank Lloyd, 498, 501
Wright, Richard, 351

Zahn, Johann, 14, 16
Zone system of photography, 364
Zoogyroscope, see zoopraxiscope
Zoopraxiscope, 225, 228

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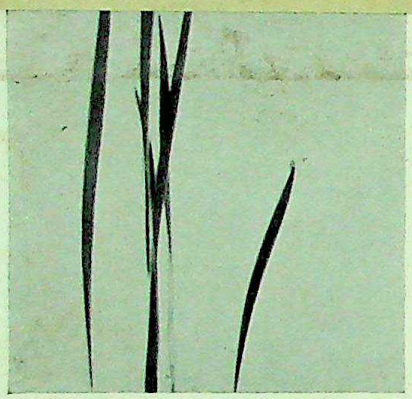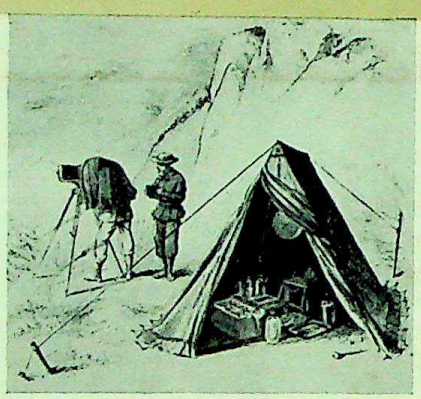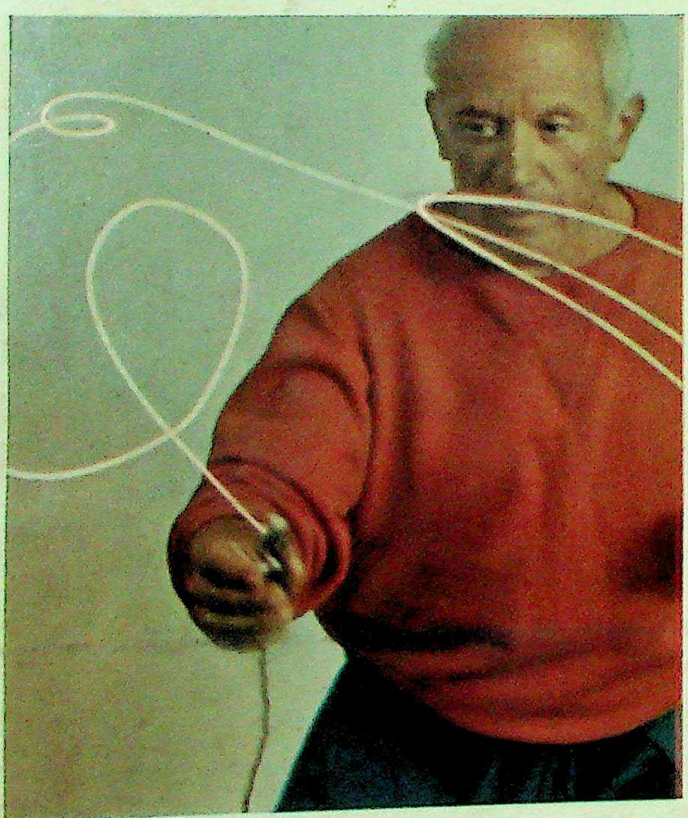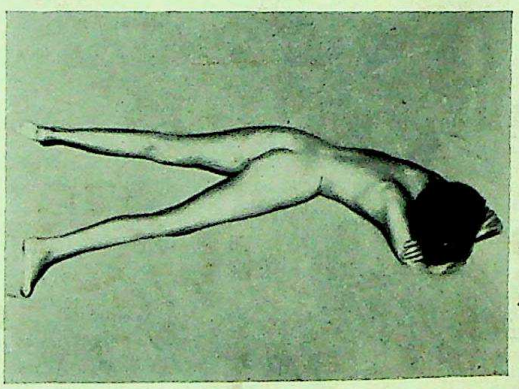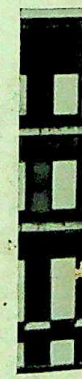
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